THE IMPACT OF BEING DENIED A WANTED ABORTION ON WOMEN AND THEIR CHILDREN*

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Abstract

This paper examines the impact of denying a wanted abortion on women and children in Colombia using high-quality administrative microdata and credibly exogenous variation in abortion access. Women can seek legal abortions through a *tutela*, with cases randomly assigned to judges. Female judges are 20 p.p. (32%) less likely to deny abortion cases than male judges, and we use the judge's sex as an instrument for abortion denial. Denial of a wanted abortion has both immediate and lasting effects. It increases a woman's risk of death by 2.5 p.p within nine months, mainly due to unsafe abortion procedures, and raises the likelihood of carrying the pregnancy to term by 31 p.p. Tracking outcomes up to 15 years later, we find that women denied an abortion experience more health issues, lower educational attainment, reduced labor-force participation, and higher rates of single motherhood, poverty, and reliance on government assistance. Existing children, born before their mother sought an abortion, are less likely to attend school and more likely to work. **JEL:** I14, I18, J13, J16.

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1 Introduction

At least one-fourth of women worldwide undergo abortion at some point in their lives (Bearak et al., 2022; Jones and Jerman, 2022). While abortion is recognized as a human right (OHCHR, 2020), restrictive laws affect 753 million women of reproductive age, or 40% globally (Center for Reproductive Rights, 2024), including many in the United States since the Supreme Court's decision in *Dobbs v. Jackson Women's Health*. Women who are denied legal abortions either continue unwanted pregnancies or undergo illegal abortion procedures, both of which can negatively impact their health and well-being, as well as that of their families.

Understanding the causal effects of restricted abortion access is crucial for supporting the well-being of women and their families. However, identifying and tracking the outcomes of women who seek abortions is inherently difficult. Establishing causal effects further requires exogenous variation in abortion access, as women who access abortions may differ significantly from those who do not. While the Turnaway Study was a pioneering effort in examining the experiences of women denied abortions (Foster, 2020), our knowledge of the causal effects of being denied a wanted abortion on women remains limited. Moreover, even less is understood about its impact on their children.

This paper studies the causal effects of being denied a wanted abortion on women and their children in Colombia, leveraging high-quality administrative data and credibly exogenous variation in abortion access. In 2006, Colombia decriminalized abortion in cases where a pregnancy threatens a woman's physical, mental, emotional, or social health, involves severe fetal malformations, or is the result of rape, incest, or unwanted insemination. However, inconsistent implementation and persistent stigma create significant barriers for women seeking abortions, including conscientious objections by doctors and bureaucratic delays (Diaz Amado et al., 2010; Baum et al., 2015; Brack et al., 2017; DePiñeres et al., 2017; González-Vélez and Castro, 2017; Stifani et al., 2018). Women can protect their right to an abortion by filing a *tutela*, a constitutional writ, and this process is critical for accessing legal abortions. *Tutelas* are randomly assigned to judges who vary in leniency, resulting in either increased access if granted or denial if rejected. To track outcomes, we link women who filed abortion rights *tutelas* to birth and death records and rich information on labor-market and sociodemographic outcomes spanning up to 15 years after the filing.

We use data from all abortion rights *tutelas* filed in Medellín, Colombia's second-largest city, between 2006 and 2022. Women seeking abortions through *tutelas* were, on average, 28 years old, with one-fifth being teenagers or younger. Additionally, one-fifth

already had children at the time they sought an abortion, and two-fifths were married or cohabitating. Economically, these women were similar to the average woman in Medellín, based on SISBEN data—a census-like survey focused on low-income populations.

About half of these women were denied a legal abortion by the judge of their *tutela*, and a strong predictor of abortion denial is the judge's sex. Male judges reject 62% of abortion rights *tutelas*, whereas female judges are 20 percentage points (p.p.) *less* likely than male judges to deny an abortion.[1] To estimate the causal effects of being denied legal access to abortion, we instrument abortion denial with the sex of the randomly assigned judge. We find similar results when replacing the judge sex indicator with a standard "judge fixed effect" design instrumenting the woman's abortion denial with the average denial rate of all other abortion seekers assigned to the same judge (e.g., Aizer and Doyle, 2015; Collinson et al., 2023; Kling, 2006).

We find that being denied a wanted abortion has both immediate and lasting effects. Women denied an abortion are 2.5 p.p. (161%) more likely to die within the following nine months. These marginal deaths occur in women who do not give birth in this time frame and are not due to complications in pregnancy or childbirth or external causes. Instead, the increase in deaths comes from septicemia and infections, indicating that women who were denied legal abortions underwent unsafe abortion procedures. Still, abortion denial induces many women to carry an unwanted pregnancy to term. Contrary to arguments that restricting legal abortion merely drives abortion underground but does not reduce abortion rates, birth records show a 31 p.p. (106%) increase in the likelihood of giving birth within nine months.

We then track women's health and sociodemographic outcomes, observing them, on average, six years after they sought an abortion. (We observe some women up to 15 years after they sought an abortion, while others are only observed before seeking one. We use the latter group for placebo tests.) We find that being denied an abortion doubles the likelihood of raising children and increases the number of children, distorting not only women's decisions about *when* to have children but also *whether* to have them and *how many* to have. Being denied an abortion also impacts women's family formation, making them 27 p.p. more likely to be single mothers, slightly less likely to be married or cohabitating, and more likely to be divorced or separated. It also induces women to live with their parents, who help care for the additional child.

Being denied an abortion leads to long-term health complications, increasing the like-

[1] Notably, female judges' attitudes toward abortion do not indicate their general leniency, as there is no gender gap in rulings on other types of *tutelas*. These findings align with previous research showing that female and male judges tend to make similar decisions except in gender-related cases, such as those involving sexual harassment and sex-based discrimination (Harris and Sen, 2019).

lihood that women experience health problems years later. It also leads to adverse economic outcomes. It lowers women's educational attainment, reducing the likelihood of earning a high school diploma by 10 p.p. It decreases labor-force participation by 15 p.p., increases women's likelihood of becoming homemakers, and reduces household market income, creating enduring economic challenges for women and their families. Although women's households are more likely to receive welfare assistance, which offsets some income loss, various indicators show that they live in worse neighborhoods and are 19 p.p. more likely to experience poverty.

These effects persist for at least eight years and also affect the children women already had before seeking an abortion. When children have more siblings, they often face increased competition for limited financial resources and their parents' time and attention. Additionally, children whose mothers were denied an abortion are more likely to grow up in poverty and live in households with lower incomes, which limits their parents' ability to meet basic needs and invest in their education. For children born *before* their mother sought an abortion, being denied the procedure leads to a 34 p.p. decrease in school attendance and a 10 p.p. increase in the likelihood of working.

The literature on the impact of abortion policy on women's and children's outcomes has recently been reviewed by Clarke (2024). For instance, in a landmark study in the United States, Myers (2017) demonstrated that liberalizing abortion access in the 1970s reduced "shotgun marriages" and enabled many young women to choose to delay marriage and motherhood. Subsequent work by Farin et al. (2024) found that it also reduced non-white maternal mortality. However, these and most other studies rely on policy or legal reforms without observing individual-level abortion access (e.g., Ananat et al., 2007; Ananat and Hungerman, 2012; Angrist and Evans, 2000; Antón et al., 2018; Clarke and Mühlrad, 2021; Dench et al., 2024; González et al., 2021; Hjalmarsson et al., 2021; Jones and Pineda-Torres, 2023; Mitrut and Wolff, 2011; Mølland, 2016; Pop-Eleches, 2006, 2010). By contrast, we identify abortion seekers and establish a clear individual-level counterfactual for assessing abortion access.

Our research builds on studies by Miller et al. (2023) and Brooks and Zohar (2024), who linked individual-level abortion data with administrative datasets from the United States and Israel. Miller et al. (2023) examined the financial impact of abortion denial by matching women from the Turnaway Study to their credit reports, using panel data and causal inference techniques to address biases from omitted variables, survey attrition, non-response, and recall issues (summarized in Miller et al., 2020). Brooks and Zohar (2024) focused on a reform that made abortions free for young women, finding that it increased abortion ratios, delayed parenthood, and reduced marriage rates, consistent

with findings from Myers (2017). We extend this work by using a convincing IV approach to investigate multiple important outcomes of abortion denial, such as mortality, health, education, labor-market outcomes, poverty, and reliance on government assistance. We provide new individual-level and plausibly causal evidence that being denied a wanted abortion increases a woman's immediate death risk and adversely affects the well-being of her previous children.

Our findings also contribute to a broader literature on the effects of family size on women and children, as reviewed by Clarke (2018) and Doepke et al. (2023), with recent work by Bailey et al. (2019), Lundborg et al. (2017), Adda et al. (2017), Aaronson et al. (2020), and Kleven et al. (forthcoming, 2019). Most studies focus on the adverse effects of fertility on women's education and labor-market outcomes, which, as shown by Gallen et al. (2024), are particularly large in cases of unplanned pregnancies. However, distinguishing between *wanted* (planned or unplanned) and *unwanted* pregnancies is crucial to discussions on reproductive rights. Although the pregnancies studied by Gallen et al. (2024) were unplanned, the women still chose to carry them to term. In contrast, women seeking abortions do not wish to continue their pregnancies but may be forced to if access is denied. As noted by Gallen et al. (2024), Ananat and Hungerman (2012), and others, contraception and abortion are often used by different groups of women and serve different purposes. *Unwanted* pregnancies, in particular, impose substantial penalties on women, including disemployment effects that are about double the typical "motherhood penalty." These pregnancies also worsen women's health, marital status, and educational attainment, and increase family poverty and reliance on government assistance. The destabilizing effect of unwanted pregnancies may help explain why abortion denial particularly harms existing children, unlike the mixed outcomes generally observed in the "quantity-quality" literature.

In sum, our findings demonstrate that being denied a wanted abortion impacts women's life, health, and economic well-being, as well as the well-being of their existing children. These findings are especially important in light of the current trend of rolling back abortion rights in multiple countries, including the United States, Poland, Nicaragua, and El Salvador (Center for Reproductive Rights, 2024).

2 Background, Data, and Summary Statistics

2.1 Abortion Law in Colombia

Historically, Colombia categorized all abortions as a crime without exceptions (Law 95/1936). Women who performed their own abortions or consented to someone else doing so could face up to 4.5 years in prison, while those who provided abortions could be sentenced to up to 10 years.

In May 2006, the Colombian Constitutional Court partially decriminalized abortion through Sentence C-355. The Court argued that banning abortion in specific cases violated women's fundamental rights, including the rights to life, health, equality, and dignity, as protected by the Colombian Constitution and international human rights treaties to which Colombia is a signatory.[2] The Court decriminalized abortion under three circumstances: (1) when a physician verifies severe fetal malformations incompatible with the life of a fetus, and (2) when a pregnancy is a result of rape, incest, or unwanted insemination, duly reported to authorities (except for women under 14 years of age and victims of the internal armed conflict, who are not required to report to authorities).

Most importantly, the Court also decriminalized abortion (3) when a physician or psychiatrist certifies that a pregnancy threatens the woman's life or physical, mental, emotional, or social health. Citing Article 12 of the International Covenant on Economic, Social, and Cultural Rights, the Court clarified that health encompasses not just the absence of disease but the enjoyment of the highest attainable standard of physical and mental health. Therefore, a woman's life does not need to be at risk and she does not need to face imminent, severe, or irreparable health issues for abortion to be decriminalized. Less severe psychological or emotional pain and mental suffering are valid grounds for a legal abortion. By recognizing social health, defined as the ability to interact and form meaningful relationships, the Court allowed physicians and psychiatrists to consider a woman's social context and contemplate, for example, how continuing an unwanted pregnancy might affect her physical and mental health by impacting her control over life goals, well-being, education, and employment opportunities (Fiscalía General de la Nación, 2016).

Within these broad clauses, the Court did not place a gestational age limit on abortion. Moreover, the Court set forth that all health service providers, public and private, must provide safe abortions free of charge within five days of receiving a request. Nevertheless, the law also established that practitioners can exercise conscientious objection based on religious beliefs. To respect women's right to abortion, objectors must refer women to

[2] This reasoning contrasts with the U.S. Supreme Court's decision in *Roe v. Wade*, where the right to abortion rested on a woman's right to privacy (Ginsburg, 1985).

other providers and cannot exercise this right when there is an immediate risk to life or when no other providers are available (Sentence C-355/2006; T-209/2008; T-388/2009).

In February 2022, Colombia further decriminalized all abortions before 24 weeks of gestation (Sentence C-055/2022). This decision resulted from a lawsuit filed by the Causa Justa (Just Cause) movement and made Colombia's abortion law one of the most progressive in Latin America and the Caribbean. After 24 weeks, abortions are still allowed under the circumstances established by the 2006 ruling.

2.2 Barriers to Legal Abortion Access

While the 2006 ruling expanded reproductive rights for Colombian women by establishing broad grounds for legal abortion, significant barriers remained for those seeking abortion services. Since abortion continued to be criminalized outside of the specific circumstances, both women seeking abortions and healthcare providers faced persistent stigma. Even when women met the legal criteria, many were denied access to abortion services, with inconsistent implementation of the Court's rulings further restricting timely access to abortion care (Diaz Amado et al., 2010; Baum et al., 2015; Brack et al., 2017; DePiñeres et al., 2017; Fink et al., 2016; González-Vélez and Castro, 2017; Médicos Sin Fronteras, 2019; Stifani et al., 2018).

La Mesa por la Vida y la Salud de las Mujeres, a coalition of nonprofit organizations and individuals supporting women seeking abortions, documented significant barriers in Colombia's legal abortion process. On the supply side, the legacy of criminalization made many healthcare providers fear prosecution or stigma, discouraging them from providing abortion services and resulting in a shortage of providers, which made access inconsistent. Many providers refused to perform abortions, citing conscientious objection based on religious beliefs.[3] Misinterpretation of the 2006 law further limited access, as doctors often assumed abortion was only allowed when a woman's life was at immediate risk, overlooking threats to physical, mental, or social health. Health insurers, responsible for linking women to abortion providers, also often failed to ensure access. They lacked referral networks, rejected out-of-network certifications, did not recognize psychologists as qualified, questioned sexual assault claims, and required unnecessary documentation or judicial approval, causing delays. Providers also incorrectly imposed gestational limits, restricted minors' access without parental consent, discouraged women from seeking abortions, and violated privacy rights. These barriers frequently delayed abortion care beyond the required five-day period or led to outright denial of services.

[3] In conservative Catholic Colombia, the Church has been a vocal and influential opponent of abortion. In 2006, it threatened to excommunicate those who performed abortions.

La Mesa also identified barriers on the demand side of abortion services. Even before 2022, many women were unaware of the partial decriminalization of abortion, particularly that mental health risks were valid grounds for a legal procedure. According to the 2015 Demographic and Health Survey (DHS), only 56% of women knew abortion was permitted in certain cases; one-third knew physical health risks qualified, and only one-fifth knew mental health risks were valid grounds (Table A.1). Many women also did not know how or where to access abortion services, which led to delays. Additionally, some were unaware that abortion services were free or covered by insurance and feared judgment, mistreatment, breaches of confidentiality, or long waiting periods.

2.3 Seeking Legal Abortions Through *Tutelas*

When women encounter obstacles in accessing abortion care, they can assert their right to a legal abortion through *tutelas*. Established in Colombia's 1991 Constitution, a *tutela* is a writ designed to enforce the immediate protection of one's fundamental constitutional rights when any of them is violated or threatened by the action or omission of public authorities or private actors performing public functions (Article 86). These include health insurers, hospitals, and clinics.[4]

Filing a *tutela* is straightforward, free, and simple. Individuals can file them any day of the week and at any time without legal representation (Decree 2591/1991). They can submit *tutelas* on their own behalf or through proxies if unable to do so themselves. The *tutela* petition only requires essential facts for the judge to address the case, such as the involved parties and the jeopardized right. *Tutelas* are typically filed in writing, except in rare cases where illiterate claimants may file them orally. The process does not involve direct interaction between the claimant and the judge, as no hearings are held.

All judges, regardless of specialization or rank, must handle *tutelas* and respond within ten days by (1) accepting the case, (2) rejecting the case, or (3) declaring the case inadmissible. If the *tutela* claimant fails to provide the required documentation (Sentence C-355/2006; T-988/2007, T-209/2008, T-946/2008 y T-388/2009) or if it is inaccurate or incomplete, judges may declare the *tutela* inadmissible and request that claimants correct their claim or provide the required documentation within three days of the initial filing (Art. 17 of Decree 2591/1991). Claimants have the right to appeal within three days, and judges have 20 days from the initial filing to decide the appeal. If the *tutela* is accepted,

[4] The *tutela* is comparable to constitutional rights protection writs in other jurisdictions, such as Germany's *verfassungsbeschwerde*, Spain's *recurso de amparo*, and Brazil's *mandado de segurança*. The writ of *amparo* is present in all Latin American legal systems. To our knowledge, no other study has analyzed the *tutela* microdata, except for Saravia (2024), which examines *tutelas* related to healthcare services and finds significant mortality effects from denied access.

compliance with the ruling must occur within 48 hours; failure to do so may result in imprisonment for up to six months and fines of up to 20 times the monthly minimum wage.[5]

These characteristics make the *tutela* a relatively easy, inexpensive, and expeditious legal mechanism. Consequently, it is the most popular judicial mechanism, with 83.7% of Colombians familiar with it (Cámara de Comercio de Bogota, Ministerio de Justicia & Banco Mundial, 2013). Nearly ten million *tutelas* were submitted between 1991 and 2022, establishing it as the most common legal recourse for Colombian citizens seeking judicial protection of their constitutional rights.

Appendix B compares the number of abortion rights *tutelas* to the number of legal abortions, revealing a ratio of 1.6 *tutelas* for every legal abortion. Both the data and substantial qualitative and anecdotal evidence suggest that most women seeking legal abortions face barriers, making *tutelas* a crucial tool for accessing these services.

2.3.1 Random Assignment of *Tutelas* to Judges

Individuals file a *tutela* in the municipality (1) where they reside, (2) where the violation occurred, or (3) where its impact is significant.[6] Individuals cannot choose their judges and judges cannot select which *tutelas* they will handle. To decentralize justice administration, ensure a fair distribution of caseloads, prevent claimants from influencing judge selection, and minimize corruption risk, *tutelas* are randomly assigned to judges at the initial stage within each judicial district. This process is explicitly outlined in Articles 86 and 228 of the Constitution along with Article 50 of the Statutory Law, supported by decrees such as Decree 2591/1991, Decree 1382/2000, Decree 1069/2015, Decree 1983/2017, and Decree 333/2021.

Since 2003, large judicial districts like Medellín have implemented an automated software system called Justicia Siglo XXI to randomly assign cases to judges. This system ensures that case distribution is transparent and efficient, helping to prevent judicial corruption and bias while managing the high volume of *tutelas* filed daily. In districts like Medellín, which is the focus of our study, tens of thousands of *tutelas* are randomly assigned to hundreds of judges.

2.4 Data

Our analysis uses administrative data from the following sources:

[5] After this stage, the *tutela* is sent to the Constitutional Court, where relevant cases are selected for review to establish new precedents or reaffirm fundamental rights protections.

[6] This process helps prevent strategic filing. Additionally, strategic filing is unlikely since rejection rates are not publicly available.

1. *Abortion rights* tutelas *and outcomes*. We use the universe of *tutelas* filed since 1991, encompassing nearly 20,000 abortion rights *tutelas* in Medellín between January 2006 and December 2022 (SAMAI, Consejo de Estado; Corte Constitucional). The records provide details such as the claimant's name and municipality of residence, the assigned judge, and the outcome (accepted, rejected, deemed inadmissible).

2. *Judge characteristics*. We extracted copies of each judge's *curriculum vitae* from *Rama Judicial*. We obtained information about judges' postsecondary enrollment, educational attainment, and performance from the Sistema para la Prevención de la Deserción en la Educación Superior (SPADIES) from Colombia's Ministry of Education. SPADIES also records the postsecondary institution judges attended and the share of courses they passed. We use SPADIES data from 1998 to 2015.

3. *Births and deaths.* We use information from Vital Statistics Records collected by the National Statistics Agency, DANE. This dataset provides comprehensive coverage of all births and deaths reported by all hospitals, clinics, doctors, nurses, and health professionals in Colombia. For live births, the dataset includes information about the birth (e.g., date, time, municipality, whether a doctor attended the birth, spontaneous delivery, cesarean section), the mother's characteristics (e.g., name, identification number, age, marital status, educational attainment, municipality of residence, social security regime, number of previous live births), and the baby's characteristics (e.g., sex, 1-minute APGAR score, 5-minute APGAR score, weight, gestational weeks). The death records include the cause of death. Our main sample consists of data from January 2007 to December 2023.

4. *Claimant characteristics and outcomes.* We utilize data from the Department of National Planning's Sistema de Identificación de Potenciales Beneficiarios de Programas Sociales (SISBEN), which is often referred to as Colombia's "census of the poor." SISBEN is a proxy-means testing instrument used to target social spending, which over 20 government programs use to select recipients. It contains information on individuals' age, education, employment status, marital status, and poverty level.

   The most recent SISBEN surveys were conducted in 2009–10 (SISBEN III) and 2017–2022 (SISBEN IV). We use SISBEN III to gather baseline characteristics of claimants and validate the empirical strategy, excluding cases filed before July 2010. We pri-

marily rely on SISBEN IV, as of November 2021, to obtain outcome information.[7]

5. *Knowledge of abortion law.* We present statistics on women's knowledge of abortion law using data from the 2015 Colombia Demographic and Health Survey (DHS). The DHS asks, '*In Colombia abortion is legal in every case, only in some cases, or never?*' For women who respond that abortion is legal in some cases, the survey then asks which specific circumstances allow for a legal abortion.

6. *The total number of legal abortions.* Appendix B uses data from Colombia's Ministry of Health and Social Protection's Integrated Social Protection Information System, SISPRO. SISPRO is a data warehouse consolidating multiple databases on health financing, service needs, risk factors, service utilization, and the distribution of insurers and providers. It includes the Registro Individual de Prestación de Servicios de Salud, RIPS, a registry of healthcare providers, and Gestión de la Demanda, GD, used to calculate capitation payments per enrollee. We retrieved data from January 2009 to December 2022.

Figure A.1 summarizes the main data sources and years of coverage. To match individuals across datasets, we use their full names, sex, and the municipality where the *tutela* was filed. Panel A of Table A.2 presents the likelihood of matching women who filed abortion rights *tutelas* to SISBEN III and SISBEN IV. SISBEN III, which covered about 37 million individuals, matched 82% of filers. SISBEN IV, covering only 25 million as of November 2021, matched a smaller proportion of filers (73%). Importantly, our instrument, described in Section 4.1, is uncorrelated with the match rate: the coefficients are close to zero and not statistically significant, indicating no difference in the likelihood of appearing in either SISBEN III or SISBEN IV.[8]

To understand how much time has passed between a woman's abortion encounter and her outcome data, we compare the age of women in SISBEN IV to their age when

[7] SISBEN has evolved over the years. For example, SISBEN III assigns households a wealth score ranging from 0 to 100 based on factors like housing quality, possession of durable goods, access to public utilities, and human capital indicators. In contrast, SISBEN IV categorizes households into four wealth groups: A (extreme poverty), B (moderate poverty), C (vulnerable), and D (not vulnerable).

[8] Our high match rates are partly due to Colombian naming conventions, where individuals typically have two given names followed by paternal and maternal surnames. The primary reason some women filing abortion rights *tutelas* are not matched to other datasets is the prevalence of common names. For example, 89% of filers with two given names and two surnames were matched in SISBEN III, compared to 62% for those with one given name and two surnames, and only 13% for those with one given name and one surname. Some women may not participate in SISBEN due to higher incomes, while some low-income households may never enroll. Later sections reveal that being denied an abortion increases the risk of poverty, as shown by a lower SISBEN score, though it does not affect SISBEN participation rates. The system does not automatically add or remove households based on changes in circumstances.

they sought an abortion, for women who filed an abortion rights *tutela* before the SISBEN IV survey. Panel B of Table A.2 demonstrates that, on average, we observe women approximately six years after they sought an abortion. However, for about half of them, we observe their outcomes more than six years later, and for a small minority, even up to 15 years later. Section 4.7 will leverage this variation to compare the impacts of abortion denial across time.

2.5 Summary Statistics

Table I provides summary statistics for all *tutelas* in general (Column 1) and abortion rights *tutelas* in particular (Column 2) filed in Medellín. Between 1991 and 2022, approximately 1.6 million *tutelas* were filed by 855,348 claimants. Of these, 19,760 abortion-related *tutelas* have been filed since 2006 by 19,649 claimants. These cases were processed across four offices and assigned to 125 judges, 42.3% of whom are female. The acceptance rate for abortion rights *tutelas* is notably low at only 38.6%, significantly lower than the acceptance rate for all types of *tutelas*. Judges are more inclined to reject abortion rights *tutelas*, with a rejection rate of 53.7%. They are also more likely to declare them inadmissible, possibly to request documentation and corrections. Of the inadmissible *tutelas*, 70% were resubmitted, and among those, 38% were eventually accepted. Fewer than 3.5% of cases were overturned on appeal.

Table A.3 provides additional summary statistics on abortion rights *tutelas*. Claimants must identify the party responsible for jeopardizing their constitutional rights. Nearly 59% of abortion rights *tutelas* were filed against health insurers, who are responsible for referring women to abortion providers but often fail to ensure access or establish referral networks when local services are unavailable.[9] Fewer than 3% of cases involve healthcare providers, with the remainder directed at the government (e.g., the Ministry of Health and Social Protection, Medellín's Secretariat of Health) or other parties. On average, the process took 6.9 workdays, with all *tutelas* being resolved within 10 workdays or fewer.

Information on the circumstances supporting the legality of the abortion is available for 3,270 claims. Among these, 88.5% of cases cited concerns for the woman's life or health, 65.3% her mental or emotional health, 25.4% physical health, 13.8% social health, 8.4% fetal malformation, and 4.3% rape, incest, or unwanted insemination (women could cite mul-

[9] An analysis of the *tutelas* shows that access barriers, not service costs, are the main obstacle. Women reported delays due to health insurers failing to respond to abortion requests, authorize procedures, or schedule services within the mandatory five-day period. Many insurers outright denied access, refusing referrals to specialized providers or claiming no doctors in their network would perform the procedure. Some also cited insufficient medical equipment or incorrectly claimed the procedure was not covered under the *Plan Obligatorio de Salud* (POS).

tiple reasons). No gestational age limits applied to these circumstances, so women were not required to report this information. However, 2,623 claims did include gestational age, with an average of 14.8 weeks when the *tutela* was filed (range: 5 to 31 weeks, median: 13 weeks). Practical barriers to abortion access, which lead women to file a *tutela*, can delay first-trimester procedures into the second trimester.

Table I: Summary Statistics

	Tutelas	
	All	Abortion rights
	(1)	(2)
Female judge (%)	46.0	42.3
Denies (%)	32.8	53.7
Accepts (%)	68.9	38.6
Inadmissible (%)	1.9	7.7
N cases	1,646,248	19,760
N claimants	855,348	19,649
N offices	18	4
N judges	585	125

Notes: This table provides a summary of the statistics for judges in Medellín who handle *tutelas*, with Columns (1) and (2) focusing on all *tutelas* and abortion rights *tutelas*, respectively. Since 1991, nearly 1.65 million *tutelas* were filed by 855,348 claimants. Of these, 19,760 abortion-related *tutelas* have been filed since 2006 by 19,649 women. These cases were processed across four offices and assigned to 125 judges, 42.3% of whom are female. Nearly 54% of abortion rights *tutelas* are denied at the first instance, and fewer than 3.5% are overturned on appeal. *Sources:* Authors' calculations using the Constitutional Court and Rama Judicial data.

To understand who files abortion rights *tutelas*, we compare women's baseline characteristics *before* they filed a claim, as observed in SISBEN III.[10] Table II compares the sociodemographic characteristics of all women in Medellín (Column 1) with those of the subset of women who filed any *tutelas* (Column 2) and specifically abortion rights *tutelas* (Column 3). Women were, on average, 28 years old when they sought abortions through *tutelas*; 21% were teenagers or younger, and 22% were already mothers. Compared to the average women in SISBEN, women who filed abortion rights *tutelas* exhibit lower rates of singlehood and slightly higher rates of motherhood. They are also less likely to live in

[10] To avoid observing women's characteristics *after* their abortion encounter, we restrict the analysis to women who filed claims after the SISBEN III survey collection ended in June 2010. On average, we analyze a woman's baseline characteristics five years before filing.

Medellín, suggesting that some of them came to the city to file an abortion rights *tutela*.[11]

Figure A.2 shows the likelihood of women filing *tutelas*, both generally and specifically related to abortion rights, across different deciles of household wealth. *Tutelas* are widely used, with around 30% of women in Medellín filing at least one. Usage increases with poverty: over one-third of women in the poorest decile ever filed a *tutela* between 2006 and 2022, underscoring the frequent use of these writs to protect fundamental rights among economically disadvantaged individuals.

Interestingly, this wealth gradient is less pronounced for abortion rights *tutelas*. Although economically disadvantaged women are more likely to experience unwanted pregnancies and face barriers to accessing legal abortion services (Guttmacher Institute, 2011), potentially increasing their need to file abortion rights *tutelas*, they are also less likely to be aware of their abortion rights. DHS data shows that less educated and poorer women are less informed about the partial decriminalization of abortion and its legal grounds when a pregnancy threatens a woman's mental health (Table A.4). These opposing effects seem to balance each other out, resulting in no clear wealth gradient in filing abortion rights *tutelas*. Table II shows that women seeking abortions through *tutelas* have similar socioeconomic profiles to other women, with negligible differences in SISBEN scores and residential strata—both indicators of socioeconomic status.

The last column of Table II compares women who were denied a wanted abortion to those who were not. The two groups are similar in their observable characteristics, with some significant differences. Women who were denied an abortion are less likely to be single and more likely to be married or cohabitating. Additionally, they are less likely to live in Medellín. Given these baseline differences, we will use an instrumental variables (IV) approach to estimate causal effects, a method we introduce and validate in Section 4.1.

[11] Because there are few studies of women who seek abortions, it is valuable to compare our sample with the sample in the Turnaway Study. In our sample, 21% of the women were teenagers, similar to 18% in the Turnaway Study. However, only 22% were already mothers, compared to 61% in the Turnaway Study. Notably, the women in our sample sought abortions through *tutelas* earlier in their pregnancies. Finally, our sample includes women who sought to terminate pregnancies due to known fetal anomalies and severe immediate health risks. These women were excluded from the Turnaway Study because researchers lacked a comparison group (Foster, 2020).

Table II: Baseline Characteristics of Women Filing Abortion Rights *Tutelas*

	All women in Medellin (1)	Women filing *tutelas*: Any *tutela* (2)	Abortion rights *tutelas*: All (3)	Denied (4)	Not denied (5)	Compliers (6)	(1)-(2) p-value (7)	(1)-(3) p-value (8)	(4)-(5) p-value (9)
Age at SISBEN III survey date	30.656	39.330	22.192	22.243	22.132	22.016	0.000	0.000	0.540
Age at *tutela* filing date			28.355	28.407	28.294	28.334			0.521
Teenager at *tutela* filing date			0.208	0.209	0.206	0.178			0.714
No education	0.209	0.125	0.147	0.150	0.143	0.148	0.000	0.000	0.279
Elementary	0.385	0.491	0.498	0.500	0.496	0.548	0.000	0.089	0.697
Middle school	0.137	0.136	0.129	0.122	0.137	0.121	0.060	0.031	0.022
High school	0.179	0.174	0.169	0.171	0.166	0.154	0.000	0.236	0.471
Postsecondary	0.090	0.074	0.058	0.057	0.058	0.029	0.000	0.000	0.734
Wealth (SISBEN score)	42.476	39.765	41.440	41.284	41.623	37.960	0.000	0.000	0.313
Residential strata 0 or 1	0.235	0.307	0.287	0.288	0.285	0.315	0.000	0.601	0.696
Household size	5.226	5.189	4.951	4.923	4.983	4.593	0.000	0.000	0.257
Has children	0.205	0.208	0.217	0.215	0.218	0.188	0.000	0.011	0.765
Number of children	0.304	0.307	0.318	0.311	0.326	0.263	0.002	0.042	0.232
Never-married	0.519	0.307	0.343	0.327	0.362	0.335	0.000	0.000	0.000
Married or cohabitating	0.309	0.417	0.413	0.431	0.391	0.450	0.000	0.441	0.000
Divorced or separated	0.096	0.156	0.124	0.121	0.129	0.087	0.000	0.000	0.197
Widowed	0.075	0.120	0.119	0.121	0.117	0.129	0.000	0.009	0.546
Lives in Medellin	0.998	0.996	0.905	0.897	0.914	0.818	0.000	0.000	0.002
N	1,283,719	294,756	11,129	6,010	5,119				

Notes: This table compares women's baseline demographic and socioeconomic characteristics based on SISBEN III. Column (1) provides statistics for all women in Medellín. To observe baseline characteristics in SISBEN III, Columns (2) and (3) narrow the sample to women who filed *tutelas* and abortion rights *tutelas* after June 2010. Columns (4) and (5) separately detail information for those denied abortion and those not denied. Column (6) reports the characteristics of compliers, calculated as the coefficient on $Denied_i$ in a 2SLS regression of $Denied_i$ multiplied by characteristic X_i and using the judge's sex ($Female_{j(i)}$) as the instrument. Columns (7) through (9) present p-values for various comparisons.
Sources: Authors' calculations using data from the Constitutional Court and SISBEN III.

3 Female Judges Are Less Likely to Deny Abortion

Abortion rights *tutelas* are typically adjudicated more strictly than other types of *tutelas*, with a higher likelihood of denial and a lower rate of approval (see Table I). This section explores the factors that influence the probability that a judge rules in favor of the woman in an abortion rights *tutela*.

The process to become a judge in Colombia is competitive, resulting in a pool of judges who are broadly similar to one another. Citizens aspiring to become judges must be under the age of 65 and hold a law degree. Additionally, they must have accumulated certain years of professional experience either practicing or teaching law, either independently or in public or private roles. Moreover, they must achieve high scores in knowledge and aptitude exams and complete competitive judgeship training. Overall, becoming a judge is contingent upon exam performance, completion of judgeship training, professional experience in law, possession of advanced law degrees, performance in interviews, and publication records.

Given this competitive process, it is unsurprising that male and female judges are statistically identical in observable characteristics. Table A.5 provides an overview of these observable characteristics for judges handling abortion rights *tutelas*. On average, both male and female judges are approximately 48 years old and have six years of experience handling *tutelas* at the time of handling an abortion rights *tutela*.[12] The workload is comparable for both sexes, with male and female judges managing around 1,800 *tutelas* and slightly fewer than 170 abortion rights *tutelas*, showing no statistically significant difference. While male judges appear more likely to have earned their law degree from a selective institution, this difference is not statistically significant.

Despite similarities in their observable characteristics, male and female judges demonstrate starkly distinct patterns in their rulings on abortion rights *tutelas*. Figure I plots the distribution of the judge-specific likelihood of denying an abortion separately for male and female judges. Male judges are substantially more likely to deny an abortion than their female counterparts. In contrast, female judges are far more inclined to rule in favor of the woman seeking an abortion.

We examine this finding within a regression framework utilizing an ordinary least squares (OLS) specification,

$$y_i = \alpha Female_{j(i)} + \delta_{o(i)} + \boldsymbol{X}'_{j(i)}\Gamma + \nu_i \,, \tag{1}$$

[12] Figure A.3 plots the age distribution of these judges who ruled on abortion rights *tutelas*, categorized by sex. The distributions for male and female judges overlap. The youngest judge at the time of the ruling was 29, while the oldest was 58.

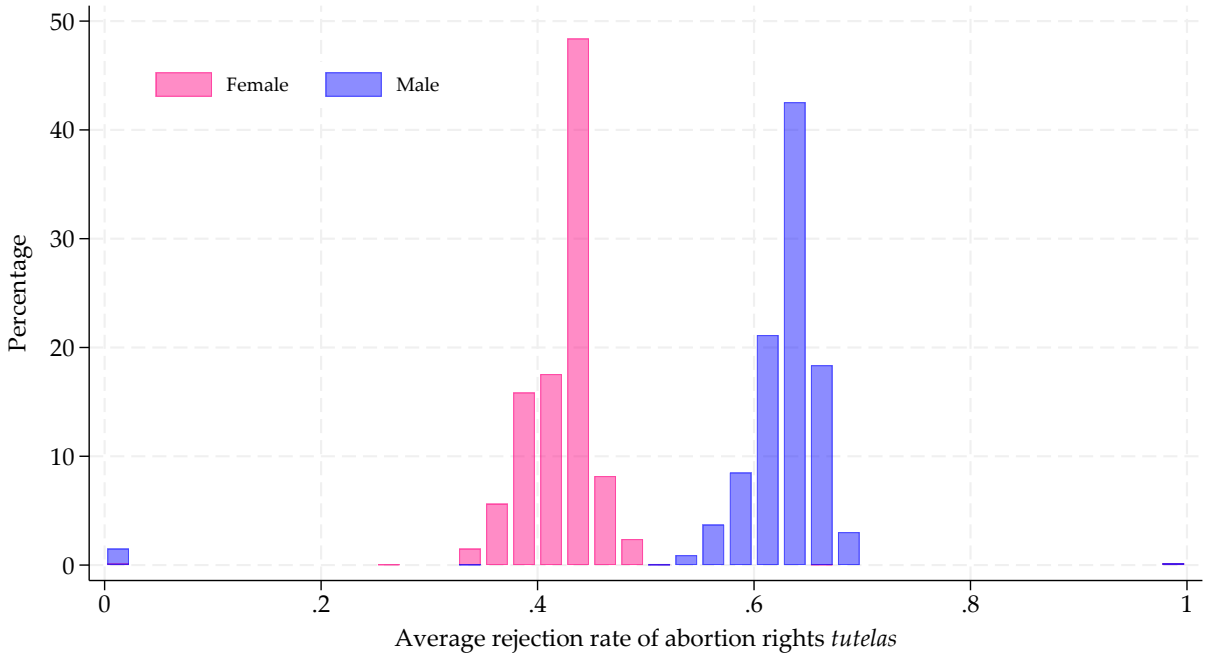
where y_i is the judge's j decision to reject, accept, or declare the case i inadmissible, $Female_{j(i)}$ is a female judge indicator, $\delta_{o(i)}$ are office-by-time fixed effects, $\boldsymbol{X}_{j(i)}$ is a vector of other judge characteristics, and ν_i is the error term.

Female judges are 19.5 p.p. less likely to deny an abortion (Column (1) of Table A.6). Given that male judges deny 61.9% of abortion rights claims, this implies that female judges are 31.5% less likely to deny abortion rights *tutelas* than their male counterparts. In Column (2), we include all observable judge characteristics as controls. While none of the other controls are statistically significant (not reported), we continue to observe that the judge's sex has a large and significant effect on the likelihood that they deny abortion rights *tutelas*. Moreover, the magnitude and statistical significance of this effect are similar to those in Column (1), indicating that other judge characteristics correlated with sex are unlikely to explain our main findings. Conversely, female judges are 14.5 p.p. (or 44%) more likely than male judges to accept abortion rights *tutelas*. They are also 5.0 p.p. (or 91.8%) more likely to declare these cases inadmissible rather than rejecting them outright, allowing women to revise and resubmit. Notably, male judges accept 27% of resubmitted cases, while female judges accept 47%—a 20 p.p. difference—indicating that female judges are more inclined to request corrections instead of outright rejection.

Judges decide whether to accept, reject, or declare an abortion rights *tutela* inadmissible based on the information provided. While claimants only need to specify the jeopardized right and involved party, Table A.3 shows that cases citing the reason(s) for seeking an abortion have a lower denial rate (38.0% vs. 53.7% on average). However, a denial gap of roughly 20 p.p. persists between male and female judges across all circumstances, including risks to the woman's life or health and fetal malformation. (This gap is twice as large in cases of rape or incest, though it should be interpreted cautiously due to the small sample size.)

To test whether female judges are generally more lenient than male judges, we examine their decisions in nearly 160,000 *tutelas* unrelated to abortion, covering cases on healthcare access, employment, and humanitarian aid. Table A.7 shows that the gender gap in abortion denials does not extend to other types of *tutelas*, even among the same judges. While female judges are less likely to deny abortion rights cases, this pattern is absent in other cases, with coefficients consistently near zero and negligible compared to male judges' average rejection rate. Thus, female judges' differing attitudes toward abortion cannot be attributed to a general tendency toward leniency.

Figure I: Female Judges are 20 p.p. Less Likely to Deny Women a Wanted Abortion



Notes: This figure plots the distribution of the judge-specific likelihood of denying an abortion rights *tutela* separately for male and female judges, where each judge is weighted by the number of abortion rights *tutelas* handled. 19,760 abortion rights *tutelas* are handled by a total of 125 judges, 42.3% of whom are female. Female judges are 20 p.p. less likely to deny women a wanted abortion than male judges. Column (1) of Table A.8 reports the coefficient and associated standard errors of the difference in abortion denial rates between male and female judges. *Sources:* Authors' calculations using the Constitutional Court and Rama Judicial data.

As all *tutelas* are randomly allocated to judges, our empirical strategy, described in the following section, identifies causal effects by leveraging the random assignment of abortion rights *tutelas* to female judges as a source of exogenous variation in women's likelihood of being denied a wanted abortion.

4 The Impacts of Being Denied an Abortion on Women

4.1 Empirical Strategy and Validity

We begin by describing our IV approach based on female judges' tendency to rule in favor of the woman seeking abortion in *tutelas* randomly assigned to them. We discuss how the institutional environment supports the assumptions underlying this identification strategy and provide tests of these assumptions.

We estimate the causal effect of being denied a wanted abortion using the following specification:

$$Denied_i = \gamma Female_{j(i)} + \delta_{o(i)} + e_i \,, \tag{2}$$

$$Y_i = \beta Denied_i + \delta_{o(i)} + \epsilon_i \,, \tag{3}$$

where Y_i is the observed outcome for case-individual i (the first abortion rights *tutela* for a given pregnancy), $Denied_i$ is an indicator for whether the case-individual is denied by the randomly assigned judge, $Female_{j(i)}$ is an indicator that the case-individual is assigned to a female judge, and $\delta_{o(i)}$ is an office-by-time fixed effect.[13]

As a robustness check, we also replace the judge sex indicator with a standard judge leniency rate design instrumenting the woman's abortion denial with the average denial rate of all other abortion seekers assigned to the same judge:

$$Denied_i = \gamma Z_{j(i)} + \delta_{o(i)} + e_i \,, \tag{4}$$

$$Y_i = \beta Denied_i + \delta_{o(i)} + \epsilon_i \,, \tag{5}$$

where $Z_{j(i)}$ is the leave-one-out estimate of stringency for judge j assigned to individual i's abortion rights *tutela*. During our study period, there were 125 judges in Medellín who adjudicated abortion rights *tutelas*. We construct the instrument from an average of 158 abortion rights *tutelas* per judge. Figure A.4 shows the distribution of judge stringency, defined as the leave-one-out mean abortion denial rate for each judge. The variation in judge stringency is substantial: there is a 25 p.p. difference between the 10th percentile and 90th percentile of judge stringency.

If the IV assumptions are met, this analysis records a positive weighted average of being denied a wanted abortion among compliers (Imbens and Angrist, 1994). In the first approach, compliers are defined as women who would have received a different outcome if their *tutela* had been assigned to a male judge. In the second approach, compliers are defined as women who would have received a different outcome if their *tutela* had been assigned to a different judge.

We will now discuss the four conditions for these instruments to be valid and for the IV estimand to be interpretable as a positive weighted average of local treatment effects on compliers: relevance, exogeneity, exclusion, and monotonicity. We support each assumption with arguments based on institutional details and empirical evidence.

[13] Individuals can appeal *tutela* decisions, but the second judge upholds the initial ruling in most cases, with fewer than 3.5% overturned. Using the final decision, the sex gap in abortion denial is 19.4 p.p. instead of 19.5 p.p. To adjust the IV for the final ruling, multiply them by 1.005.

1. Relevance. Table A.8 presents the first-stage estimates from Equations (2) and (4), which indicate that judge sex and judge stringency have large and statistically significant impacts on abortion denials. Column (1) shows that judge sex has a large and statistically significant impact on abortion denials, with female judges being 19.5 p.p. less likely than male judges to deny abortion (the p-value is 0.00). As Section 3 discussed, this first stage is robust to including other judge characteristics. Similarly, Column (2) shows that judge stringency has a large and statistically significant impact on abortion denials. The Kleibergen-Paap Wald F-statistic is 1735.36.

2. Exogeneity. Table III shows the result of a standard balance test of random assignment. Column (1) reports the non-denied mean, while Column (2) compares claimants' baseline observable characteristics when the *tutela* is denied. As expected, claimants' baseline characteristics predict receiving an abortion denial: women denied an abortion are less likely to be single and more likely to be married or cohabitating. Furthermore, a joint F-statistic of 4.023 implies that we can reject the null hypothesis that the coefficients are jointly equal to zero (the p-value is 0.000). Importantly, claimants' observable characteristics do not predict the judge randomly assigned to the case. Column (3), which compares these characteristics when assigned to a female judge, shows that none of the 18 coefficients are statistically significant, and all coefficients are quantitatively small. In addition, we fail to reject the null hypothesis that the coefficients are jointly equal to zero (the p-value is 0.160), consistent with random assignment. Doing the same for judge stringency in Column (4) shows that none of the 18 coefficients are statistically significant and, again, we fail to reject the null hypothesis that the coefficients are jointly equal to zero (the p-value is 0.835).

Additionally, we establish the random assignment of claims to judges using OLS regression followed by an F-test. Specifically, we regress a claimant's characteristics, such as her age, on the office-by-time fixed effect and the judge fixed effects, as in Equation (6),

$$Age_i = \sigma_{j(i)} + \delta_{o(i)} + \varepsilon_i \,, \tag{6}$$

where Age is the woman's age in years at the time of filing the *tutela* for a given pregnancy, $\sigma_{j(i)}$ are judge fixed effects, $\delta_{o(i)}$ are office-time dummies, and ε_i is the error term. These judge fixed effects capture time-invariant unobserved differences in adjudicating abortion rights *tutelas* across judges. An F-test on the equality of the judge fixed effects tests the hypothesis that abortion rights *tutelas* are randomly assigned with respect to the claimant's age. Table IV supports this assumption by showing no correlation between the judge's fixed effect and the claimant's age and 17 other baseline characteristics. The p-value of the

joint F-test is 0.433.

3. Exclusion. A third identification assumption is that abortion denial is the only way that female judges affect women's outcomes. This assumption is plausible in our setting. First, we focus only on *tutelas* related to abortion rights. Second, judges can only determine whether to accept, deny, or declare the case inadmissible; they do not influence other aspects of the *tutela* (Art. 14 of Decree 2195/1991). Third, judges never interact directly with claimants (there is no court hearing). These features enable us to isolate the impact of the abortion denial.

4. Monotonicity. In our setting, monotonicity requires that women who were denied an abortion by a female judge would also have been denied an abortion by a male judge. Figure I shows that female judges are less likely to deny an abortion than male judges, and the overlap between the distributions of rejection rates is small. Monotonicity is, therefore, a natural assumption in our setting.

When using judge stringency as an instrument, monotonicity requires that all women who were denied an abortion would also have been denied an abortion by a more stringent judge, while women who were not denied an abortion would also not have been denied one by a less stringent judge. This condition can fail if judges are relatively harsh for some types of cases or individuals and relatively lenient for others. In our setting, however, we construct judge leniency based only on abortion rights *tutelas* (not on all *tutelas*). Furthermore, we test monotonicity by comparing the first-stage estimates for different subsamples of women. Table A.9 shows similar first-stage estimates across women of different age groups, motherhood statuses, marital statuses, levels of educational attainment, and wealth levels. This consistency suggests that the monotonicity assumption is likely to hold.

4.1.1 Compliers' Characteristics

Column (6) of Table II describes the characteristics of compliers—women denied an abortion when assigned a male judge instead of a female judge. Compared to all women filing abortion rights *tutelas* (Column (3)), compliers are slightly poorer, less educated, and less likely to live in Medellín. Similarly, compared to always-denied women and never-denied women, compliers are slightly poorer, less educated, and less likely to reside in Medellín, regardless of whether judge sex or stringency is used as the instrument (Table A.10). These findings indicate that while judges may consider social health when assessing abortion legality, compliers are not economically better off and, in fact, tend to be slightly worse off.

Table III: Testing Balance

	Non-Denied Mean (1)	Denied (2)	Female (3)	Judge Stringency (4)
Age at SISBEN III survey date	22.132	0.105	-0.114	-0.017
		(0.163)	(0.228)	(0.822)
Age at *tutela* filing date	28.294	0.104	-0.113	0.002
		(0.162)	(0.227)	(0.822)
Teenager at *tutela* filing date	0.206	0.003	0.012	-0.032
		(0.007)	(0.009)	(0.035)
No education	0.143	0.007	-0.007	-0.006
		(0.006)	(0.007)	(0.027)
Elementary	0.496	0.003	0.005	0.005
		(0.009)	(0.010)	(0.038)
Middle school	0.137	-0.015	0.007	-0.034
		(0.007)	(0.007)	(0.026)
High school	0.166	0.005	-0.005	0.031
		(0.007)	(0.007)	(0.028)
Postsecondary	0.058	-0.001	-0.001	0.003
		(0.004)	(0.004)	(0.016)
Wealth (SISBEN score)	41.623	-0.104	0.399	-1.979
		(0.403)	(0.388)	(1.493)
Residential strata 0 or 1	0.285	0.000	0.011	-0.028
		(0.009)	(0.009)	(0.036)
Household size	4.983	-0.050	0.092	-0.330
		(0.053)	(0.049)	(0.176)
Has children	0.218	-0.002	0.001	-0.015
		(0.008)	(0.007)	(0.030)
Number of children	0.326	-0.014	0.014	-0.071
		(0.012)	(0.011)	(0.042)
Never-married	0.362	-0.034	0.010	-0.035
		(0.010)	(0.008)	(0.031)
Married or cohabitating	0.391	0.039	-0.013	0.045
		(0.010)	(0.009)	(0.035)
Divorced or separated	0.129	-0.008	0.005	-0.020
		(0.006)	(0.006)	(0.024)
Widowed	0.117	0.004	-0.001	0.011
		(0.006)	(0.005)	(0.017)
Lives in Medellín	0.914	-0.010	0.005	-0.015
		(0.006)	(0.005)	(0.019)
Joint F-stat		4.023	1.403	0.627
p-value		0.000	0.160	0.835
N		11,128	11,128	11,096

Notes: Column (1) reports the non-denial mean. Column (2) presents results from a regression of abortion denial on claimant characteristics. Column (2) shows results from a regression of assignment to a female judge on claimant characteristics, while Column (3) presents results from a regression of judge stringency on claimant characteristics. All regressions include office-by-time fixed effects. Standard errors are shown in parentheses and are clustered at the judge level. To observe baseline characteristics in SISBEN III, the sample is restricted to women who filed an abortion rights *tutela* after June 2010. While Table II presents statistics for 11,129 such cases, one case is in a single office-by-time cell; since there is no comparison, it was dropped from the regressions. Some judges only handled one abortion case and are included in Columns (2) and (3) but not in Column (4). *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN III.

Table IV: Test of Random Case Assignment to Judges

	F-Statistic (1)	p-value (2)
Age at SISBEN III survey	1.120	0.195
Age at *tutela* filing date	1.115	0.203
Teenager at *tutela* filing date	1.165	0.124
No education	0.920	0.703
Elementary	0.975	0.554
Middle school	1.044	0.362
High school	1.062	0.316
Postsecondary	1.495	0.001
Wealth (SISBEN score)	1.155	0.137
Residential strata 0 or 1	1.024	0.416
Household size	0.883	0.792
Has children	0.856	0.847
Number of children	0.809	0.920
Never-married	0.908	0.734
Married or cohabitating	1.108	0.217
Divorced or separated	1.179	0.107
Widowed	0.512	1.000
Lives in Medellín	0.745	0.974
Joint F-test	1.018	
p-value	0.433	

Notes: This table reports tests of random case assignment to judges. Each row displays the coefficient from running an OLS regression of each baseline control variable on the judge fixed effect and the office-by-time fixed effect. The p-value reported at the bottom is for a F-test of the joint significance of the variables listed in the rows. To observe baseline characteristics in SISBEN III, the sample is restricted to women who filed an abortion rights *tutela* after June 2010. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN III.

4.2 Childbearing and Mortality

Table V reports separately the results for births and deaths occurring within nine months of filing an abortion rights *tutela* (Panel A) and more than nine months after filing (Panel B). Remarkably, over one in four women who successfully filed a *tutela* and received a favorable ruling still carried the pregnancy to term. As shown in the first row of Column (1), 29.0% of women who were *not* denied an abortion gave birth within nine months.[14] These

[14] This comparison group consists of women whose abortion rights *tutelas* were either accepted or deemed inadmissible, potentially resulting in a resubmission. Of those whose *tutelas* were accepted, 26.6% carried the pregnancy to term.

women often had more advanced pregnancies, and while Colombia had no gestational age limits for legal abortions during the study period, some may have reconsidered their decision or chosen to continue the pregnancy by the time they accessed abortion services. Additionally, persistent barriers may have remained despite the favorable *tutela* ruling.

Women who were denied an abortion are nevertheless much more likely to carry their pregnancy to term. Column (2) shows the causal effect of being denied a wanted abortion on the likelihood that a woman gives birth within nine months, using Specification (2). Abortion denial raises the chances of women carrying the pregnancy to term by 30.7 p.p. This effect is both statistically significant and economically meaningful, representing a 106% increase compared to non-denied women. This finding counters the argument that restricting legal abortion does not reduce abortion rates but merely drives it underground. Instead, abortion denial meaningfully increases the likelihood that women continue pregnancies to term. Moreover, since four-fifths of women were childless when they sought an abortion, abortion denial pushes many women into motherhood before they want it.[15]

Interestingly, while being denied a legal abortion increases the likelihood of carrying a pregnancy to term, many of these women still ended their pregnancies, indicating widespread reliance on illegal abortions. In the first trimester, women often use misoprostol, a low-cost, safe, and widely available option in Colombia and other Latin American countries, both with and without a prescription.[16] However, for pregnancies beyond the first trimester, abortion drugs are no longer effective, and abortions may involve self-harm or surgical procedures, either self-induced or performed by illegal providers—both of which can be unsafe and even lethal. Since women seeking abortions through *tutelas* were, on average, over 14 weeks pregnant (Table A.3), they likely resort to these unsafe methods. Consequently, we now examine women's likelihood of dying within nine months of filing the *tutela*.

Table V shows that women in the study sample face immediate health risks. The second row shows that 1.6% of women who were not denied an abortion died within nine months. Since most of these women did not carry their pregnancies to term, they likely obtained legal abortions. However, it is unlikely that their elevated death risk stems from the abortion procedures themselves; the clinical literature highlights the safety of legal

[15] Consistent with this interpretation, Table A.11 shows an increase in the proportion of babies born to first-time mothers. There is no evidence of sex-selective abortions: these babies are not more likely to be a specific sex. Their APGAR scores and gestational age at birth are similar to other newborns. However, abortion denial seems to increase the incidence of babies with low birth weight delivered via cesarean section.

[16] In our study, 41% of women denied an abortion carried the pregnancy to term, compared to 70% in the Turnaway Study. This difference likely reflects the higher prevalence of illegal abortions in Colombia—where a recent mystery-shopper study found that one in six pharmacists would sell misoprostol for abortion (Moore et al., 2020)—and the earlier pregnancy stages, making medication abortions feasible.

abortions (Upadhyay et al., 2015), and even the clandestine use of misoprostol is generally considered safe (Moore et al., 2021, 2020). While childbirth carries its own risks, 90% of these deaths occurred *without* a live birth. An analysis of the causes of death reveals that 62% of deaths were due to health issues, suggesting that many of these women were already at higher risk, often seeking abortions because their pregnancy posed health threats, particularly when procedures were delayed. 0.3% of the non-denied women died from septicemia and infections. 0.12% of women died from direct or indirect obstetric causes, a rate higher than Colombia's 2020 maternal mortality rate of 0.075% (WHO, UNICEF, UNFPA, World Bank Group, and UNDESA/Population Division, 2023) and higher than the 0.05% maternal mortality rate we estimate for pregnant women from Medellín in SISBEN IV, underscoring the heightened risks faced by women seeking abortions through *tutelas*.

In this context, women who were denied an abortion face much greater immediate health risks. Column (2) shows that abortion denial increases the likelihood of death within nine months by 2.5 p.p., a 161% increase compared to women who were not denied an abortion. A back-of-the-envelope estimate indicates that approximately 97 women died because they were randomly assigned a male rather than a female judge ($19{,}759 \times 0.195 \times 0.0252$). Under a constant effect assumption, we estimate that around 268 women died as a result of being denied an abortion ($= 19{,}759 \times 0.537 \times 0.0252$).

In principle, this finding could be attributed to several factors. First, some women seeking abortion have underlying health issues that make pregnancy and childbirth risky, so forcing them to continue their pregnancies could heighten the risk of complications and fatalities. However, abortion denial does *not* increase the likelihood of giving birth and dying, suggesting the mortality rise is not due to childbirth. Furthermore, abortion denial does not affect the likelihood of dying from direct or indirect obstetric causes or other health issues.

Second, the psychological distress caused by abortion denial may worsen mental health conditions or raise the risk of self-harm or suicide. Additionally, women who give birth face a higher risk of domestic violence (Massenkoff and Rose, forthcoming). However, abortion denial does not appear to increase deaths from external causes such as suicide or homicide.

Last, being denied a legal abortion might drive women to unsafe procedures, risking fatal complications like infection and hemorrhage. Consistent with this, the increase in women's mortality is due to septicemia and infections, with the risk of death from these causes rising by 3.4 p.p.—a more than 1000% increase compared to women who were not

denied abortions.[17] These results suggest that women denied abortion rights *tutelas* turned to other methods for abortions, increasing the risk of deadly infections.

Table V: Impacts of Being Denied a Wanted Abortion on Childbearing and Mortality

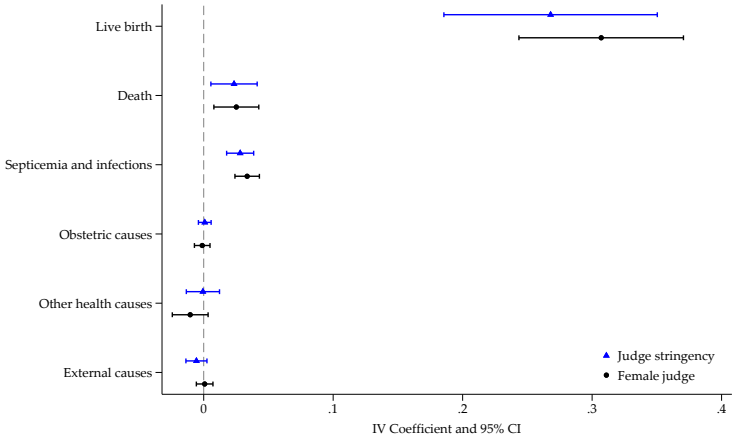
	Non-Denied Mean (1)	IV (2)
Panel A: *Current pregnancy* (*within 9 months from filing*)		
Live birth	0.290	0.307
		(0.032)
Death	0.016	0.025
		(0.009)
Septicemia and infections	0.003	0.034
		(0.005)
Obstetric causes	0.001	-0.001
		(0.003)
Other health causes	0.010	-0.010
		(0.007)
External causes	0.002	0.001
		(0.003)
Live birth and death	0.002	-0.003
		(0.003)
Panel B: *Subsequent pregnancy* (*at least 10 months after filing*)		
Live birth	0.061	-0.013
		(0.018)
Death	0.008	-0.002
		(0.008)
Another abortion rights *tutela*	0.007	-0.007
		(0.005)

Notes: This table presents the effects of being denied a wanted abortion on childbearing and mortality, using the judge's sex as an instrument for abortion denial, following Specification (2). Panel A focuses on outcomes within nine months of filing an abortion rights *tutela*, while Panel B focuses on outcomes occurring at least ten months after filing the *tutela*. Panel A includes 19,759 women who filed between 2006 and 2022, with four mutually exclusive causes of death reported. In Panel B, the first two rows balance the sample to 16,731 women whose outcomes are tracked for 60 months after filing. The final row shows the likelihood of filing an abortion rights *tutela* for a subsequent pregnancy. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and Vital Statistics.

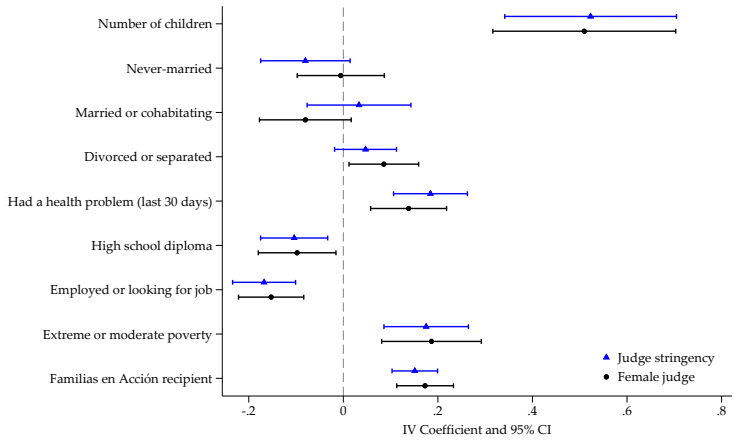
[17] Although women who give birth can potentially die from septicemia and infections, 92% of these deaths occur in women who do not give birth.

Figure II: Robustness Using Judge Stringency

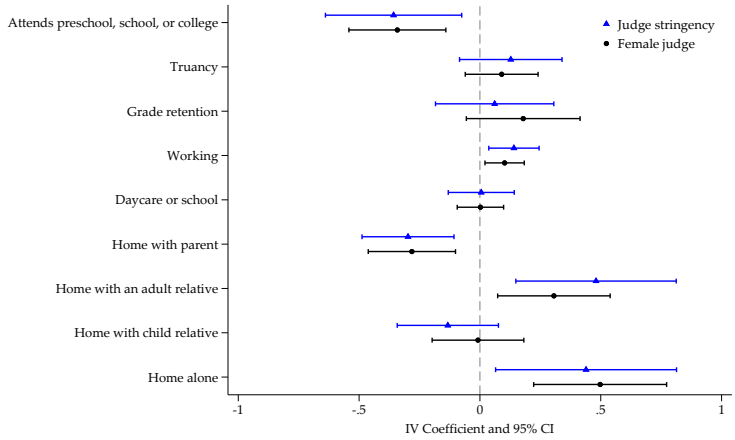
(a) Immediate Childbearing and Mortality



(b) Long-Term Outcomes for Women



(c) Long-Term Outcomes for Children



Notes: This figure compares the main effects of abortion denial, using judge sex and judge leniency as instruments for abortion denial. *Sources:* Tables A.13, A.14, and A.15.

Table A.12 shows that these results are robust to restricting the sample to women identified in SISBEN III who sought abortions through *tutelas* after June 2010, the same sample used for balance tests and validating the empirical strategy (Tables III and IV). Panel A of Figure II shows the findings also hold when replacing the judge sex indicator with the judge leave-one-out abortion denial rate. Additionally, Table A.13 demonstrates that the results remain consistent when limiting the sample to cases handled by male judges, indicating that the impact of judge sex on women's outcomes arises from differences in the likelihood of male and female judges denying abortions.

Women denied an abortion are no less likely to become pregnant and give birth later in life, and their long-term mortality remains unaffected. Panel B of Table V examines childbirth after subsequent pregnancies and mortality rates more than nine months after filing an abortion rights *tutela*. Among women not denied an abortion, 6.1% later became pregnant and gave birth. There is no evidence that abortion denial negatively affects this outcome, suggesting that denial influences not only the *timing* of fertility but also decisions about *whether* and *how many* children to have, as the next section will demonstrate. Additionally, 0.8% of women not denied an abortion died ten or more months after filing. Abortion denial does not significantly affect long-term mortality, indicating that the risk of death from denial is immediate.

Filing another abortion rights *tutela* in subsequent years is rare, regardless of abortion denial. The last row of Table V shows that only 0.7% of women file a *tutela* for abortion rights for a subsequent pregnancy, with over 99% filing only once over nearly two decades. Abortion denial does not significantly impact the likelihood of filing another abortion rights *tutela*; the effect is negative but not statistically significant.

4.3 Long-Term Effects on Fertility and Family Formation

We now turn to the long-term effects of being denied a wanted abortion on various outcomes for women. These outcomes, measured using SISBEN IV, are realized nearly six years after women file an abortion rights *tutela*, when they are just over 33 years old. We start by examining the impacts on fertility and family formation. These results are presented in Table VI.

Table VI: Impacts on Household Composition and Marital Status

	Non-Denied Mean (1)	IV (2)
Panel A: *Household size and composition*		
Has children	0.358	0.346
		(0.050)
Number of children	0.611	0.510
		(0.099)
Lives with parents or in-laws	0.700	0.137
		(0.052)
Lives with adult relative(s)	0.755	0.181
		(0.048)
Number of adult relatives	0.724	0.599
		(0.118)
Household size	3.508	0.699
		(0.169)
Panel B: *Marital status and partner quality*		
Never-married	0.335	-0.005
		(0.047)
Married or cohabitating	0.428	-0.080
		(0.049)
Divorced, separated, or widowed	0.237	0.086
		(0.038)
Spouse or partner's years of education	6.024	0.273
		(1.590)
Single mother	0.137	0.265
		(0.035)

Notes: This table presents the impact of being denied a wanted abortion on a woman's household size and composition, marital status, partner's educational attainment, and personal characteristics, using the judge's sex as an instrument for abortion denial, following Specification (2). These outcomes are realized nearly six years after women file an abortion rights *tutela*, when they are just over 33 years old. The sample is restricted to 11,018 women who filed abortion rights *tutelas* before the SISBEN IV survey. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN IV.

Women who were denied an abortion are more likely to have children and to have a greater number of children. In line with our earlier finding that abortion denial heightens the chances of childbirth, Panel A reveals a 34.6 p.p. increase in the likelihood of having

children, marking a 97% increase compared to women in the comparison group. Denial also results in a 0.51 increase in the number of children (83.3%), showing that abortion restrictions not only limit women's ability to decide *when* to have children but also influence their decisions about *whether* to have them and *how many*.[18]

Abortion denial also induces women to live with relatives. This is already common in the survey sample: 70.0% of non-denied women live with their parents or in-laws, and over three-fourths reside with adult relatives (excluding spouses and cohabitating partners, which we turn to next). While women in the Turnaway Study raised their children without family support, women denied an abortion in our setting are 13.7 p.p. (19.6%) more likely to reside with parents or in-laws and 18.1 p.p. (24.0%) more likely to live with any adult relative. This is consistent with childbirth inducing reliance on extended families, which is more common in developing countries (e.g., Aguilar-Gomez et al., 2019). Overall, abortion denial results in a 0.699 increase in household size, representing a 19.9% expansion.

In this context, women denied an abortion are more likely to become single mothers. Panel B shows the effects on women's marital status. While one-third of non-denied women have never been married, abortion denial has no significant effect on this outcome. However, it increases the likelihood of being divorced or separated by 8.6 p.p. and reduces the likelihood of being married or cohabitating (although not significantly). Consequently, abortion denial raises the likelihood of single motherhood by 26.5 p.p.—a nearly 200% increase. This is driven by a higher likelihood of having children, higher rates of divorce or separation, and marginally lower rates of marriage or cohabitation. These results, as well as all of our other main estimates, are robust to replacing the judge sex indicator with a standard judge fixed effect (Panel B of Figure II).

4.4 Long-Term Effects on Self-Reported Health

Table VII shows that women denied an abortion are more likely to face long-term health issues. Column (1) of Table VII shows that 22.4% of women not denied an abortion reported an "illness, accident, dental issue, or non-hospitalization-requiring health concern" in the 30 days before the SISBEN survey. Column (2) shows that abortion denial increases this

[18] The impact on total children in Table VI differs from immediate fertility in Table V due to differences in outcomes (total children vs. immediate births), time frames (six years vs. nine months), and datasets (SISBEN IV vs. birth records). SISBEN IV, which overrepresents economically disadvantaged households, captures women who may be more likely to carry pregnancies to term when denied an abortion (Section 4.8). Thus, abortion denial has a greater effect on total children in SISBEN than in the more comprehensive birth records. (These findings also suggest that few women choose adoption, aligning with Turnaway Study results.)

likelihood by 13.8 p.p., a 61.6% increase. This rise may result from being forced to carry pregnancies to term or resorting to unsafe procedures, both of which can have lasting health effects. Since abortion denial also increases mortality and SISBEN IV includes only surviving individuals, these estimates arguably understate the true health impacts.

Over 90% of non-denied women with health issues sought medical care, and over 97% of them received the necessary treatment. Abortion denial significantly increases the likelihood of seeking and receiving care, although these effects are about half as large as the effect on experiencing health issues. This discrepancy suggests that abortion denial may reduce women's willingness to seek healthcare, possibly due to fear of social stigma or diminished trust in healthcare providers after facing barriers to abortion access.[19]

Table VII: Impacts on Women's Self-Reported Health

	Non-Denied Mean (1)	IV (2)
Had a health problem (last 30 days)	0.224	0.138
		(0.041)
Sought healthcare (last 30 days)	0.203	0.081
		(0.038)
Received healthcare (last 30 days)	0.198	0.068
		(0.038)
Disability	0.169	0.025
		(0.041)
Pregnant	0.009	-0.008
		(0.011)

Notes: This table presents the effects of being denied a wanted abortion on various health outcomes, using the judge's sex as an instrument for abortion denial, following Specification (2). These outcomes are realized nearly six years after women file an abortion rights *tutela*, when they are just over 33 years old. The first four rows report impacts on a dummy for answering "Yes" to the following: "*Within the past 30 days, have you experienced any illnesses, accidents, dental issues, or health concerns that did not require hospitalization?*" "*Did you seek assistance from a healthcare provider such as a general practitioner, specialist, dentist, therapist, or another health professional?*" "*Were you assisted?*" and "*Have you experienced permanent limitations in seeing, hearing, speaking, moving independently, bathing, dressing, feeding yourself, going outside without assistance or company, or understanding and learning since birth or due to illness or accidents?*" The last row reports impacts on the likelihood of pregnancy during the SISBEN IV survey. The sample is restricted to 11,018 women who filed abortion rights *tutelas* before the SISBEN IV survey. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN IV.

[19] 16.9% of non-denied women reported enduring permanent limitations since birth or due to illness or accidents, and fewer than 1% of them were pregnant at the time of the SISBEN survey. Abortion denial shows no impact on either of these outcomes.

4.5 Long-Term Effects on Educational and Labor-Market Outcomes

Table VIII indicates that abortion denial appears to reduce women's educational attainment. In Table VIII, Column (1) of Panel A illustrates that most non-denied women had not earned a high school diploma by age 33. Abortion denial decreases the likelihood of obtaining a high school diploma by 9.8 p.p., a 43.0% reduction (Column (2)). Additionally, there is a marginally significant 4.9 p.p. increase (52.9%) in the likelihood of having no formal education, indicating a leftward shift in educational attainment due to abortion denial.

Abortion denial also reduces women's labor-force participation. Column (1) of Panel B shows that less than one-fourth of women who were not denied an abortion actively participate in the labor force. Those who are employed are primarily self-employed or work as domestic workers, and some are employed in private firms. However, three-fourths of women do *not* participate in the labor force, with 55.8% being homemakers and 7.4% inactive. Column (2) shows that abortion denial significantly diminishes women's labor-force participation, leading to a 10.6 p.p. reduction in the likelihood of employment (a 54.6% decrease) and a 4.7 p.p. decline in job-seeking (a 99.3% decrease). This employment decline is driven by women exiting self-employment and domestic work. Concurrently, the likelihood of becoming a homemaker increases by 12.2 p.p. (a 21.9% rise), while the likelihood of having no activity rises by 8.5 p.p. (a 115.0% increase). These findings underscore the substantial adverse impact of abortion denial on women's economic involvement. As we will see, abortion denial will have ramifications on women's ability to generate income, with negative repercussions affecting other family members.

4.5.1 Comparison with the Typical Motherhood "Penalty"

To benchmark the impact of being denied a wanted abortion on women's labor-market outcomes, we compare it to the typical motherhood 'penalty.' Our analysis focuses on women from Medellín included in SISBEN (versions III and IV). Using the approach from Kleven et al. (forthcoming), we conduct pseudo-event studies of first childbirth with SISBEN IV's cross-sectional data. To ensure comparability, we restrict both samples—women filing abortion rights *tutelas* and all women in SISBEN IV—to those who were childless at baseline and identified in SISBEN III. We then reweight the SISBEN IV sample based on the baseline characteristics of *tutela* filers in SISBEN III.

Table VIII: Impacts on Women's Educational Attainment and Labor-Force Participation

	Non-Denied Mean (1)	IV (2)
Panel A: *Educational attainment*		
No education	0.093	0.049
		(0.028)
Elementary	0.447	0.014
		(0.040)
Middle school	0.148	-0.005
		(0.035)
High school	0.227	-0.098
		(0.042)
Postsecondary	0.081	0.040
		(0.029)
Panel B: *Labor-force participation*		
Employed	0.194	-0.106
		(0.036)
Self-employment	0.076	-0.052
		(0.020)
Domestic worker	0.030	-0.031
		(0.013)
Private sector employment	0.069	-0.013
		(0.016)
Public sector employment	0.009	-0.005
		(0.007)
Non-remunerated worker	0.002	0.004
		(0.004)
Other employment type	0.008	-0.009
		(0.007)
Looking for job	0.047	-0.047
		(0.017)
Homemaker	0.558	0.122
		(0.048)
No activity	0.074	0.085
		(0.030)
Unable to work due to permanent disability	0.042	0.005
		(0.019)
Student	0.047	0.008
		(0.018)

Notes: This table presents the effects of being denied a wanted abortion on women's educational and labor-market outcomes, using the judge's sex as an instrument for abortion denial, following Specification (2). These outcomes are realized nearly six years after women file an abortion rights *tutela*, when they are just over 33 years old. The sample is restricted to 11,018 women who filed abortion rights *tutelas* before the SISBEN IV survey. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN IV.

Column (1) of Table A.16 shows the effects of being denied a wanted abortion, focusing on childless women identified in SISBEN III. While the smaller sample limits precision, abortion denial significantly reduces women's employment and labor-force participation. Since only a fraction of denied women carry to term, Column (2) replaces abortion denial in Specification (2) with an indicator for motherhood. Although the exclusion restriction does not fully hold—judges influence outcomes not only through childbearing but also directly, such as through worsened health—'unwanted' motherhood has substantial negative effects, reducing women's employment by 17.1 p.p. (111.9%) and labor-force participation by 29.8 p.p. (154.2%).

We next analyze the impact of 'typical' motherhood on women's outcomes. Figure A.5 shows a significant motherhood penalty: men and women follow parallel trends before parenthood but diverge sharply and persistently afterward. Column (3) estimates that 'typical' motherhood reduces women's employment by 9.9 p.p. (46.3%) and labor-force participation by 13.3 p.p. (53.9%). While substantial and precisely estimated, these effects are smaller than those of 'unwanted' motherhood. For instance, the disemployment effect of 'unwanted' motherhood is nearly twice as large, and the reduction in labor-force participation is more than double. Moreover, since non-denied women without children—the comparison group in Column (2)—are less likely to participate in the workforce initially, the relative impact of 'unwanted' motherhood is even greater.

4.6 Long-Term Effects on Poverty and Welfare Assistance

We now turn to household-level outcomes. Three different measures of household poverty are presented in Panel A of Table IX, and we consider each in turn. All three measures are consistent: being denied a wanted abortion leads women to live in poverty.

First, we utilize the household residential stratum from Colombia's socioeconomic stratification system, which categorizes households from 0 to 6 based on poverty determined by neighborhood and dwelling characteristics (with 0 and 1 representing the poorest).[20] Column (1) shows that approximately 30.6% of women in the comparison group reside in the most impoverished neighborhoods, in strata 0 or 1. Column (2) indicates that abortion denial increases the likelihood that women reside in these poorest strata by 12.9 p.p. (42.2%).

A second measure of poverty refers to the SISBEN IV group, which categorizes households into four categories (A to D) based on poverty levels and income-generating capacity (A indicates extreme poverty and the least income-generating capacity). About 39.6%

[20] Tenants in the SISBEN may be categorized as stratum 0 if they reside in a single room within a shared dwelling and use a communal restroom.

of women in the comparison group live in conditions of extreme poverty (group A, 11.3%) or moderate poverty (group B, 28.3%). Abortion denial heightens the probability that women reside in extreme or moderate poverty by 18.7 p.p., or 47.1%.

A third and final measure of poverty refers to the multidimensional poverty index (MPI), which measures households' overlapping deprivations across ten indicators in three equally weighted dimensions: health, education, and standard of living.[21] About 26.5% of non-denied women experience multidimensional poverty, and abortion denial elevates this figure by 19.1 p.p., a 72.2% increase.

Table IX: Impacts on Household Poverty and Welfare Assistance

	Non-Denied Mean (1)	IV (2)
Panel A: *Household level of poverty*		
Residential strata 0 or 1	0.306	0.129
		(0.049)
Extreme or moderate poverty	0.396	0.187
		(0.054)
Incidence of multidimensional poverty	0.265	0.191
		(0.045)
Panel B: *Welfare assistance*		
Familia en Acción recipient	0.033	0.173
		(0.031)
Subsidized health regime	0.709	0.088
		(0.044)
Contributory health regime	0.252	-0.023
		(0.039)

Notes: This table presents the effects of being denied a wanted abortion on a woman's household level of poverty and welfare assistance, using the judge's sex as an instrument for abortion denial, following Specification (2). These outcomes are realized nearly six years after women file an abortion rights *tutela*, when they are just over 33 years old. The sample is restricted to 11,018 women filing abortion rights *tutelas* before the SISBEN IV survey. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN IV.

Because they are more likely to live in poverty, women who were denied an abortion

[21] The MPI complements the international $2.15-a-day poverty rate by measuring non-monetary indicators of poverty. It was developed by the Oxford Poverty and Human Development Initiative in partnership with the Human Development Report Office of the United Nations Development Program as an internationally comparable index of acute multidimensional poverty (Departamento Nacional de Planeación, 2012).

rely more on welfare assistance. Panel B of Table IX presents impacts on welfare assistance. Only 3.3% of women in the comparison group receive benefits from Familias en Acción, Colombia's main conditional cash-transfer program for low-income families with children. Abortion denial increases this probability by 17.3 p.p., or 518.7%. These women are more likely to receive welfare benefits because being denied an abortion raises the chances that women have children and simultaneously increases the likelihood that they live in poverty.

Government assistance helps mitigate the income decline following abortion denial, as shown in Table A.17, which details impacts on household income. On average, non-denied households earn about one monthly minimum wage for full-time workers. However, abortion denial leads to a 25% decrease in household market income, primarily due to reduced salary earnings, as it often results in women working less. Some family members turn to self-employment, leading to a marginally significant increase in self-employment income. Cash transfers, particularly from Familias en Acción, help cushion the fall in household income. Overall, abortion denial results in a reduction in post-transfer household income, although the coefficient is not statistically significant at conventional levels.

Abortion denial also increases reliance on other forms of government assistance. The final rows of Table IX examine the likelihood of enrolling in the subsidized health regime, Colombia's publicly funded health insurance program for the poor. Consistent with findings that abortion denial reduces women's labor-force participation and increases the likelihood that they live in poverty, it also raises the probability that they enroll in the subsidized health regime by 8.8 p.p. (12.4%). Additionally, there is a non-significant 2.3 p.p. (9.0%) decrease in the likelihood that they are part of the contributory health regime for formal workers, which aligns with the observed exit of denied women from the labor force. The increased reliance on welfare assistance and subsidized healthcare, along with the documented long-term health complications resulting from abortion denial, suggests that denying abortion imposes a fiscal cost ultimately borne by taxpayers.

To summarize, being denied a wanted abortion exacerbates women's household poverty and increases their dependence on welfare assistance. Our analysis, using three distinct measures of poverty, consistently shows a significant and economically meaningful increase in poverty levels due to abortion denial, indicating a substantial financial burden for households. Again, these results are robust to replacing the judge sex indicator with a standard judge fixed effect (Figure II). As we will discuss in Section 5, this financial strain on households has ripple effects on children.

4.7 Impacts Across Time

We observe individual and household outcomes in SISBEN IV an average of six years after women sought an abortion. However, the timing of these observations varies: for some women, we observe outcomes shortly after filing, for others up to 15 years later, and for some, only before they sought abortions. Figure III compares the effects of abortion denial on various outcomes by groups of years since filing an abortion rights *tutela*.[22]

As expected, abortion denial does not influence women's outcomes before seeking an abortion. However, denial has an immediate adverse effect on women's well-being. The point estimate immediately after abortion denial is large and statistically significant, indicating immediate impacts on women's fertility, health, labor-force participation, poverty levels, and welfare assistance. These adverse effects persist over time, even more than eight years later. For example, abortion denial lowers women's labor-force participation shortly after denial, and this effect remains consistent in both magnitude and statistical significance over the long term. Similarly, the impact on the likelihood that women live in extreme or moderate poverty is immediate and persistent, with the point estimate remaining almost identical more than eight years after abortion denial.

4.8 Heterogeneity by Baseline Characteristics

Analyzing abortion denial's effects across women's baseline characteristics reveals the groups most impacted by restricted access to legal abortion.[23]

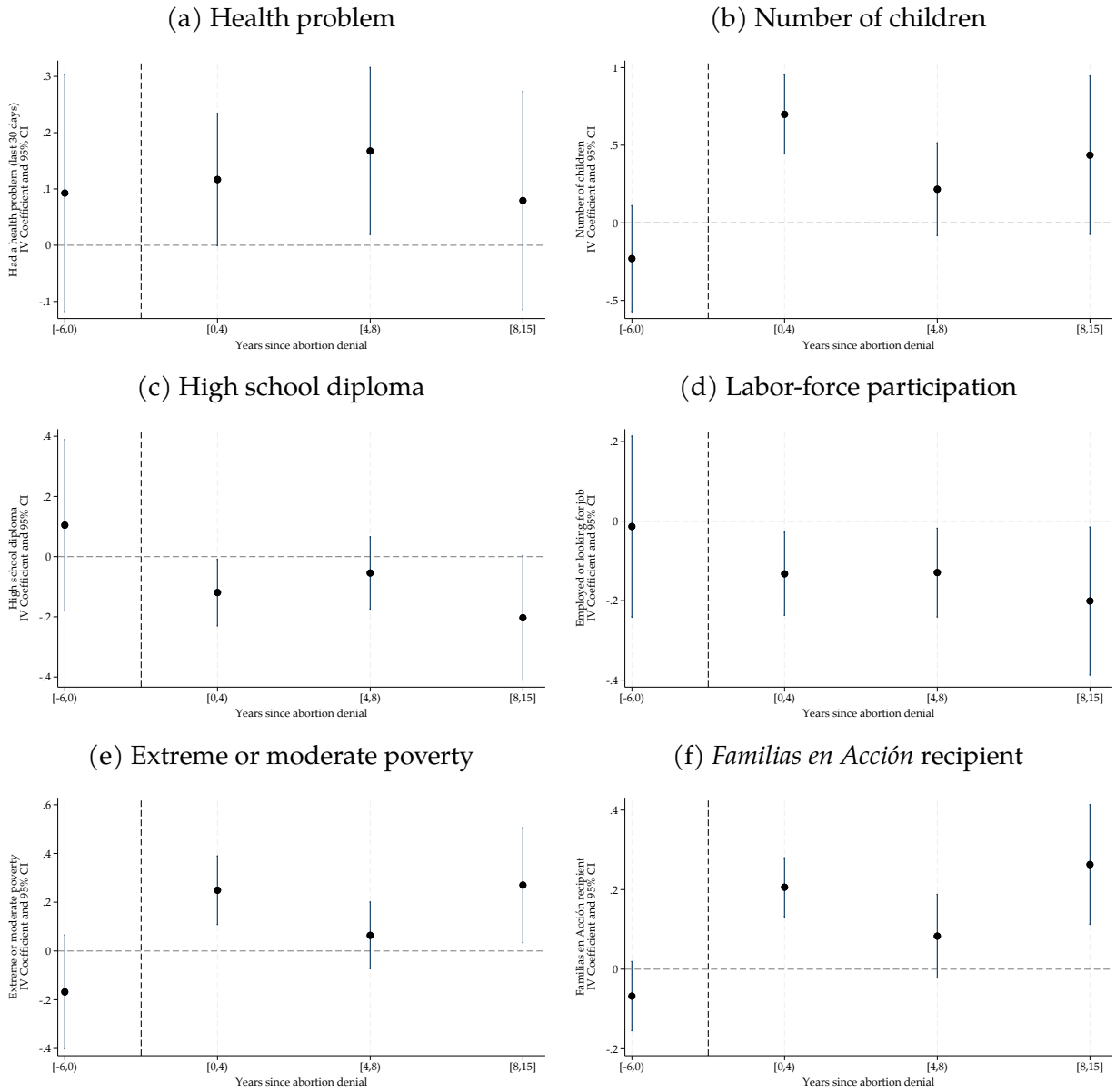
Household wealth. Figure A.6 compares the impact of abortion denial on women from households above and below the median wealth level, as defined by SISBEN III. While abortion denial increases mortality risk for both groups, it raises fertility slightly more among economically disadvantaged women.[24] Six years later, poorer women show a disproportionate increase in the number of children, suggesting reduced access to alternative abortion options (Tables A.18 and A.19).

[22] The number of years since filing a *tutela* is correlated with age, as older women are more likely to be observed many years after filing. Additionally, age often correlates with different outcomes (e.g., number of children, labor-force participation). To account for this, we adjust Specification (2) by including the woman's age and age squared.

[23] When comparing effects by the woman's age and whether she already had children when seeking an abortion, we must adjust Specification (2). As explained in footnote 22, younger women are typically surveyed closer to filing the *tutela*, so we control for the number of years between filing and being surveyed when comparing effects by age. When comparing effects by motherhood status, we control for age and age squared, as women who already had children tend to be older than those without.

[24] Similarly, comparing the impacts on childbearing and mortality for all women (Table V) and those in SISBEN III (Table A.12) shows that abortion denial increases mortality in both groups but disproportionately raises childbearing among SISBEN III women.

Figure III: Impacts Across Time



Notes: This figure compares the effects of abortion denial on various outcomes, separately by the number of years since filing an abortion rights *tutela*. It uses the judge's sex as an instrument for abortion denial and augments Specification (2) by including the woman's age and age squared at the time of the survey. The sample includes 14,542 women in SISBEN IV who filed abortion rights *tutelas* between 2006 and 2022. Vertical lines indicate 95% confidence intervals. *Sources:* Authors' calculations using Constitutional Court and SISBEN IV data.

Age. Panel A of Figure A.7 contrasts the effects of abortion denial on women aged 19 and under with those aged 20 and older. Younger women experience greater increases in health complications and poverty, though these differences are only marginally significant

(Table A.20).

Motherhood status. Among women seeking an abortion through *tutelas*, most had no children, while about a quarter did. Panel B of Figure A.7 shows that childless women denied an abortion are slightly more likely to experience health complications, while women with children face significant declines in labor-force participation, likely due to their initial workforce engagement. Consequently, these women also experience greater household income losses (Table A.21).

5 The Impacts of Abortion Denial on Children

Having an additional sibling can impact older children's well-being, particularly when resources such as money, parental time, and attention are limited. Moreover, the preceding sections have highlighted the negative effects of a woman's abortion denial on the economic stability of households. These financial constraints can hinder parents' capacity to fulfill their children's basic needs and invest in their education.

Children who had already been born before their mother was denied an abortion are less likely to attend school and more likely to participate in the workforce. Table X focuses on the youngest child born before their mother sought an abortion.[25] The analysis includes 2,317 such children, who were typically around 5.5 years old when their mother sought an abortion and approximately 12 years old during the SISBEN survey. Six years after the abortion encounter, abortion denial has adversely affected these children's educational attainment. While 78.0% of children in the comparison group attend preschool, school, or college, abortion denial reduces this share by 34.2 p.p., representing a 43.8% decrease. Abortion denial also appears to increase truancy and grade retention, but these effects are not statistically significant.[26] Additionally, abortion denial significantly increases the likelihood that children work in the labor market by 10.2 p.p., or nearly 420%.

[25] The results are similar using all children born before the abortion rights *tutela* (Table A.22). Moreover, there is no evidence that the existing children of women denied abortion leave home earlier than the non-denied group: abortion denial is uncorrelated with sharing the same SISBEN IV household, with an IV coefficient close to zero and not statistically significant (Table A.23).

[26] Table A.24 reports the effect on the highest grade attained. Abortion denial reduces the likelihood of attaining fourth grade and increases the likelihood of attaining second grade.

Table X: The Impact of Being Denied a Wanted Abortion on a Woman's Existing Children

	Non-Denied Mean (1)	IV (2)
Panel A: *School attendance and work*		
Attends preschool, school, or college	0.780	-0.342
		(0.102)
Truancy	0.104	0.090
		(0.077)
Grade retention	0.487	0.179
		(0.120)
Working	0.024	0.102
		(0.041)
Panel B: *During the weekdays, where does the child usually stay and with whom?*		
Daycare or school	0.042	0.002
		(0.049)
Home with parent	0.354	-0.282
		(0.092)
Home with an adult relative	0.048	0.306
		(0.119)
Home with child relative	0.161	-0.008
		(0.097)
Home alone	0.270	0.498
		(0.140)

Notes: This table presents the effects of a woman's being denied a wanted abortion on the outcomes of her youngest child born *before* she filed an abortion rights *tutela*, using the judge's sex as an instrument for abortion denial, following Specification (2). These children were about 5.5 years old when their mother sought an abortion and 12 years old at the time of the survey. The sample is restricted to the 2,317 youngest children of women who filed abortion rights *tutelas* before the SISBEN IV survey. The question "*During the weekdays, where does the child usually stay and with whom?*" is only available for 882 children. Standard errors are clustered at the judge level. *Sources:* Authors' calculations using data from the Constitutional Court and SISBEN IV.

Although women who were denied an abortion are more likely to be homemakers, they appear to be less, not more, involved in caring for their older children. Most non-denied women are homemakers, and about 35.4% of their existing children are cared for by a parent on weekdays. When women leave the labor force due to abortion denial, however, the probability that their older child stays home under a parent's care decreases by 28.2 p.p. (79.6%). Instead, these children are 30.6 p.p., or 365%, more likely to be under the supervision of an adult relative, which aligns with previous findings indicating that

abortion denial increases the likelihood that women live with parents or in-laws. Importantly, these children are also 49.8 p.p., or 184%, more likely to be left home alone.[27]

Again, these results are robust to replacing the judge sex indicator with a standard judge fixed effect (Figure II). Morever, since abortion denial increases women's mortality and SISBEN IV tracks only the outcomes of surviving women's children, these estimates likely represent a lower bound on the impacts of abortion denial on existing children.

6 Conclusion

This paper has examined the impact of being denied a wanted abortion on women and their families. Using novel linked data from Colombia, where legal abortion services can be requested through *tutelas*, we estimated causal effects by exploiting the random assignment of *tutelas* to judges and the substantial variation in rulings, influenced by the judge's sex. Our findings demonstrated that being denied an abortion has sizable and lasting economic, social, and health consequences for women and their families. They highlight one potential impact of female representation in the judiciary and underscore the consequences of restricted abortion access on women and their children. This evidence is particularly relevant given the current rollback of abortion rights in multiple countries.

Our findings have several caveats and open questions for future research. Female judges were significantly more likely to approve women's requests for abortion access, but this sex disparity in judicial decisions likely varies across settings, requiring further investigation into its causes. Our study focused on women pursuing legal abortions, while most women in Colombia do not seek legal services, as the majority of abortions remain illegal and clandestine (Guttmacher Institute, 2011). We also found that abortion denial impacts women's outcomes, though these effects likely differ by population and context. Lower-income women can face greater risks, as they are less likely to find willing providers and more likely to carry to term if denied access. Health consequences are generally less severe in early pregnancies when medication abortion is available but can become more serious in more advanced pregnancies or in areas with limited access, where women may turn to unskilled providers or self-managed abortions. Finally, our results are based on data from an upper-middle-income country with a median per capita GDP. Impacts may be greater in lower-income countries, where unsafe abortion remains a leading cause of maternal deaths and morbidity (Haddad and Nour, 2009; Singh and Maddow-Zimet, 2016).

Abortion is a complex social issue. As social science researchers, our role is to quan-

[27] Table A.25 shows that these effects are primarily concentrated among older children. Moreover, Table A.26 shows no detectable effects on children's health outcomes.

tify the impacts of receiving or being denied a wanted abortion, highlighting the societal, health, and economic consequences of restricted access. This paper contributes by examining the causal effects of abortion denial on women and their existing children, providing evidence to inform public policy. However, it does not explore broader welfare implications, address ethical considerations, or advocate for expanded legal access.

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