

working paper  
2303

Gender Differences in Judicial  
Decisions under Incomplete  
Information: Evidence from  
Child Support Cases

Roberto Asmat  
Lajos Kossuth

May 2023

cemfi

# Gender Differences in Judicial Decisions under Incomplete Evidence from Child Support Cases

## Abstract

We compare decisions by female and male judges in child support trials where a judge decides on the child support amount to be paid by the father. Leveraging the random assignment of cases to judges, we show that female judges set lower child support awards. We find no evidence that this gap is explained by pervasive views on traditional gender norms, nor by female and male judges pursuing alternative judicial goals. Instead, we offer a new perspective on gender differences in judicial decision-making by focusing on cases where the defendant's income is non-observable due to labor market informality. In these cases, judges must form beliefs about the income before deciding on a child support award. Eliciting such beliefs, we find that female judges rely less on the plaintiff's claim to form beliefs about the defendant's income, which explains the gender gap in child support awards.

JEL Codes: J16, J46, K15, K36

Keywords: Gender, judicial decisions, informality.

Roberto Asmat  
Vienna University of Economics and  
roberto.asmat@wu.ac.at

Lajos Kossuth  
CEMFI  
lkossuth@cemfi.es

## **Acknowledgement**

We are very grateful to Roland Rathelot, Ben Lockwood and Manuel Bagues for their guidance. We also thank James Fenske, Dan Bernhardt, Dan Anderberg, Nattavudh Powdthavee, Marcel Fafchamps, Alessandro Castagnetti and Rodolfo Belleza, and participants at the 2022 Conference on Behavioral Economics and Development (King's Center on Global Development, Stanford University), the 2021 Policing and Crime Workshop (Centre for Economic Performance, London School of Economics), the 2021 European Society for Population Economics conference, the 2021 Applied Microeconomics to Peru seminar, XXVII Meeting on Public Economics, 2019 PhD Workshop on Labour and Family Economics (Royal Holloway University of London), 2017 Latin American Association in Law and Economics conference, and PhD Forums at the University of Warwick during 2017-2020 for helpful comments and suggestions. Authors thank Vera Troeger and the Centre for Competitive Advantage in the Global Economy (CAGE) for financial support to build data sets. Luciana Gaspar, Diego Niño and Lidia San Miguel provided excellent research assistance.

# Gender Differences in Judicial Decisions under Incomplete Information: Evidence from Child Support Cases\*

ROBERTO ASMAT<sup>†</sup>      LAJOS KOSSUTH<sup>‡</sup>

May, 2023

## Abstract

We compare decisions by female and male judges in child support trials where a judge decides on the child support amount to be paid by the father. Leveraging the random assignment of cases to judges, we show that female judges set lower child support awards. We find no evidence that this gap is explained by pervasive views on traditional gender norms, nor by female and male judges pursuing alternative judicial goals. Instead, we offer a new perspective on gender differences in judicial decision-making by focusing on cases where the defendant's income is non-observable due to labor market informality. In these cases, judges must form beliefs about the income before deciding on a child support award. Eliciting such beliefs, we find that female judges rely less on the plaintiff's claim to form beliefs about the defendant's income, which explains the gender gap in child support awards.

---

\*We are very grateful to Roland Rathelot, Ben Lockwood and Manuel Bagues for their guidance. We also thank James Fenske, Dan Bernhardt, Dan Anderberg, Nattavudh Powdthavee, Marcel Fafchamps, Alessandro Castagnetti and Rodolfo Belleza, and participants at the 2022 Conference on Behavioral Economics and Development (King's Center on Global Development, Stanford University), the 2021 Policing and Crime Workshop (Centre for Economic Performance, London School of Economics), the 2021 European Society for Population Economics conference, the 2021 Applied Microeconomics to Peru seminar, XXVII Meeting on Public Economics, 2019 PhD Workshop on Labour and Family Economics (Royal Holloway University of London), 2017 Latin American Association in Law and Economics conference, and PhD Forums at the University of Warwick during 2017-2020 for helpful comments and suggestions. Authors thank Vera Troeger and the Centre for Competitive Advantage in the Global Economy (CAGE) for financial support to build data sets. Luciana Gaspar, Diego Niño and Lidia San Miguel provided excellent research assistance.

<sup>†</sup>Department of Economics, Vienna University of Economics and Business (email: roberto.asmat@wu.ac.at)

<sup>‡</sup>CEMFI (email: lkossuth@cemfi.es)

# 1 Introduction

Single-parent households are becoming very common around the world. For example, 26 percent of children in the US ([US Census Bureau, 2022](#)), 21 percent in the UK, 18 percent in Russia, and 10 percent in Brazil, live in a single-parent home.<sup>1</sup> For most of these children, the material resources available to them are very directly affected by the child support allocation. As a result, the method of calculation of transfers from the non-custodial parent to the child has enormous economic significance.

The economics literature shows evidence of the factors affecting child support when parents conciliate ([Chiappori and Weiss, 2007](#)). However, we know little about how these transfers are determined when there is a disagreement between the parties and an adjudication is made by a court or a judge. In some countries, such as Canada and the UK, there are strict legal guidelines for establishing child support awards. In many others, including the context we study, the judiciary follows standard legal suggestions with discretion, leaving room for additional factors to influence the outcomes. In this paper, we explore one of these factors: the gender of judges. First we ask whether male and female judges allocate different levels of child support. Second, if there were gender differences in judicial decision-making around child support, we ask what the drivers of that gap would be.

In papers comparing judicial decisions by female and male judges, a popular hypothesis is that female judges might bring a different judicial perspective to the bench in areas salient to women (such as child support cases) ([Kastellec, 2013](#)). We believe this hypothesis is founded on at least three mechanisms. One is that differences emerge due to female and male judges having distinct views about the social norms embedded in legal contexts. Specifically, if child support amounts are solely a function of the defendant's income, the relevant social norm shaping these differences would be assigning a breadwinner role to the father and a caregiver role to the mother. Alternatively, female and male judges might have distinct legal objectives independent of awarding the 'right' amount of child support, such as the balance between retribution and mercy ([Arnold, Dobbie and Yang, 2018](#)). For example, judges might set lower awards to reduce the defendants' incentives to appeal (to expedite the process and deliver timely child protection) or increase their compliance (a valid concern when child support is not transferred to the plaintiff automatically from the defendants' employers).

A less obvious and overlooked source of discrepancy between female and male judges is related to the fact that the judiciary is often not able to observe all relevant information to make a decision. In particular, the critical information for making a decision in child support cases is the income of the non-custodial parent, which might not be fully known to judges. This is especially relevant in the context of labour markets with high levels of informality. As judges must form beliefs about the income of the non-custodial parent, we postulate that a gender gap in judicial decision-making can also emerge if female and male judges assess the

---

<sup>1</sup>Pew Research Center analysis of 2010-2018 census and survey data.

available information differently.

To identify the causal effect of the gender of judges on child support awards, we use administrative data on child support cases from Peru, where the mother (plaintiff) is the custodial parent who sues the child’s father (defendant). This data set matches the question in our study for the following reasons. First, child support cases are randomly assigned to judges, which allows us to identify a clear causal effect. Second, judges have high levels of discretion around child support awards, the only restriction being that this amount should not exceed 60 percent of the defendant’s income. Judicial discretion offers an ideal opportunity to observe the potential influence of judges’ backgrounds on their decisions (Cohen and Yang, 2019). Third, this setting allows us to build a data set that not only links judge identifiers to case characteristics, but also captures additional covariates from the curricula vitae and affidavits of the judges in our sample, which is rarely seen in this literature. Finally, due to the highly informal nature of the Peruvian labour market, we are able to observe the same judge making decisions in cases where the defendant’s income is observed and cases where it is not. This means that we can study whether our theory about the information assessment mechanism is supported by the data.

Our central finding is that female judges award smaller amounts of child support compared to their male counterparts. The difference in the child support per child given by female and male judges is around -0.18 standard deviations. This gap is about 12.2% of the basic market basket value per person and 4.5% of the minimum wage in 2018. This result might sound counterintuitive to those who would expect female judges to favor the interests of female plaintiffs. However, this lack of homophily is in line with evidence found in decisions about employment (Bagues and Steve-Volart, 2010) and academic evaluations (Bagues, Sylos-Labini and Zinovyeva, 2017).

To shed light on the mechanisms, we first study whether the gender gap reflects different views of the social norm that assigns a breadwinner role to the father and a caregiver role to the mother. According to social norm theory, the different views of individuals about a social norm can be captured by their belonging to different social groups. For instance, given that traditional gender roles were more pervasive in the past, it would be plausible to argue for older judges to be more in support of those traditional norms than their younger colleagues and thus award larger amounts of child support to female plaintiffs. To test for the influence of gender norms on the gender gap, we proxy judges belonging to different social groups via their individual characteristics (age, job type, job experience, and wealth). However, we find no convincing evidence consistent with the idea that gender norms shape judges’ decisions, nor that they explain the gender gap in child support awards.

Another norm-based theory is that female judges might ‘over-correct’ for negative perceptions of women in the workplace. The ‘Queen Bee Syndrome’, for example, suggests that women who have achieved success in male-dominated fields might acquire more ‘masculine’

traits and be extremely critical of other women, especially if they are subordinates. As a result, we could expect that the higher the proportion of males in the workplace, the more similarly female and male judges would rule regarding child support. We address this prediction in two different ways depending on the social group of reference. First, we constrain the reference group to the court, which is composed of the leading judge and a team of lawyers that assist them. Since these assistants might not be the social group that can influence female judges to behave differently, we propose a second reference group consisting of all judges who work in a Judicial District. In both cases, we find no evidence that the different behaviour of female and male judges is affected by the gender composition of the workplace.

Further, we consider the possibility that female and male judges care differently about other legal objectives. First is the concern that a verdict might be appealed, which would delay child protection. The amount awarded as child support affects the parties' incentives to appeal, so we test the rate of appeals against the gender of the judge. A second concern is whether the defendants will abide by the verdict. This is especially relevant when defendants work in the informal sector and their transfers to the plaintiff are harder to enforce. However, we also find no evidence of gender differences along these alternative judicial goals.

Our unique setting allows us to study an alternative explanation that, to the best of our knowledge, has not been a focus of the literature on judicial decision-making: the degree to which male and female judges might assess incomplete information differently. There are two empirical challenges in this analysis. First, it is hard to elicit judges' beliefs about unknown case characteristics. Second, parties' signals about these unknown features are likely endogenous to the judge's identity: for example, they might change what information they reveal or withhold depending on the perceived strictness of a judge. We address the first challenge by combining judicial decisions in child support cases with complete and incomplete information about the income of defendants. When a defendant works in the formal economy and complete income information is available (from now on, formal cases), the judge determines a child support amount that is expressed as a percentage of income. When the defendant works in the informal economy (from now on, informal cases), a judge has to form a belief about the defendant's income upon which to base the award, which is expressed in absolute terms. By using judges' decisions in formal cases as their revealed child support allocation preferences, we elicit their beliefs about the defendant's income in informal cases. We overcome the second challenge by using the claim (the amount of money demanded by the mother when submitting the case) as a signal about the unknown income since it is set before the case is randomly assigned to a judge and, therefore, cannot depend on the gender of judges. Thus, we study to what extent judges' beliefs about income rely on the plaintiff's claim. We find that female judges rely less on the claim when estimating the unknown income of defendants, which ultimately explains our reduced-form estimates.

We contribute to the literature on the role of gender in judicial decision-making. Most of

this research has focused on criminal cases (e.g. [Gruhl, Spohn and Welch \(1981\)](#); [Steffensmeier and Hebert \(1999\)](#); [Coontz \(2000\)](#); [Schanzenbach \(2005\)](#); [Collins and Moyer \(2008\)](#); [Johnson \(2014\)](#)) and a range of civil rights issues such as immigration appeals (see [Gill, Kagan and Marouf \(2015\)](#)) and issues affecting women<sup>2</sup> (e.g. [Martin \(1989\)](#); [Farhang and Wawro \(2004\)](#); [Peresie \(2005\)](#); [Boyd, Epstein and Martin \(2010\)](#) and [Boyd \(2016\)](#)), all in the context of common law. Our study contributes to the less-explored branch of family law and child support cases in the civil tradition, which has several advantages for the study of judges' gender differences in judicial decisions.

First, in many settings, judicial decisions are made by a panel of two or three judges (see [Gill, Kagan and Marouf \(2015\)](#) and [Peresie \(2005\)](#)) making it hard to disentangle the views of female and male judges. However, in our setting a single judge decides, so we can attribute differences to the gender of judges by exploiting random assignment of cases to judges. Second, as [Kiser, Asher and McShane \(2008\)](#) show, only 5% of cases reach litigation in most judicial instances, so the interest should be in the settlement stage instead of the litigation stage. By contrast, in child support cases, we find that over 70% of the cases that started the process reach litigation. Finally, in many instances, women are under-represented in courts, which poses an empirical threat when it comes to comparing the decisions of male and female judges ([Knepper \(2018\)](#)); however, in child support trials in Peru about 60% of the judges are female.

Another of our contributions is to go beyond the detection of outcome disparities, by also studying the decision-making process behind them. For instance, [Arnold, Dobbie and Yang \(2018\)](#) test for racial bias in bail decisions by comparing misconduct rates of respondents for whom perceived benefits and costs of being released were equal for judges. In another recent study, [Ash, Chen and Ornaghi \(2022\)](#) look at gender attitudes to explain voting behaviour in gender-related cases in U.S. Circuit Courts. In the same spirit, our paper contributes to the study of gender differences in judicial decision-making by inspecting the role of information assessment.

In the next section we describe the institutional setting of child support trials in Peru. In Section 3, we review the data and construction of variables. In Section 4, we present the empirical analysis of the estimation of the gender gap in child support. In Section 5, we propose several explanations of the gender gap and present the evidence. Finally, we discuss the implications of our results and conclude in Section 6.

## 2 Institutional setting

In Peru, the non-custodial parent must pay child support (an 'award') to the custodial parent. Award payments are due every month until the child turns 18 years of age. We focus on cases

---

<sup>2</sup>The issues included in these studies are abortion, affirmative action, sex discrimination in employment and sexual harassment



where the father is sued for child support by the mother, the custodial parent, given that this pairing accounts for virtually all cases collected. In legal terminology, the party who sues is called the ‘plaintiff’, and the one who gets sued is the ‘defendant’. In this section, we describe the judicial process and the statutory child support scheme.

## 2.1 The judicial process

First, the plaintiff files a lawsuit for child support at a Peace Court in their Judicial District.<sup>3</sup> The filing is a standard form that can be downloaded from the Judicial Branch’s website. The plaintiff provides: i) their and the defendant’s basic contact information; ii) the claimed amount of child support; iii) name, age, and relationship with the defendant of the children involved in the trial, and whether they have a disability; iv) basis of the claim; v) a categorised budget of the needs of the children (clothing, food, etc.); vi) information about the financial circumstances of the defendant (type of work, monthly income, etc.); vii) other children the defendant must support, and viii) evidence. The forms are designed to be simple and accessible even to those who would struggle to afford legal services. Once submitted, the claim is randomly assigned to a court in the Judicial District. The judge and assistants of the assigned court check whether the case is fit for trial based on formal and legal requirements.<sup>4</sup>

If the case is admitted, the judge notifies the defendant, who has up to five days to respond. If they do not respond, they are declared a ‘defaulter’ (a *‘rebelde’* in the Peruvian civil tradition). In such cases, all substantiated claims made by the plaintiff are presumed to be the truth, with some exceptions. Even if the defendant is declared a ‘defaulter’, however, they can insert themselves in the trial at any point. The judge sets a date for the settlement hearing, to which both parties are summoned. The goal in this stage is to get the parties to settle, so they can avoid the financial and time costs of litigating.

If the parties fail to agree on a child support amount at the settlement hearing, or if the defendant fails to appear in court, the judge either issues a sentence immediately, or the case proceeds to litigation. In our data set, 72.6% of cases reach the litigation stage. In the litigation stage, the judge sets an award using the information given by both parties. After this decision, either or both of the parties can appeal. If there is an appeal, the case proceeds to a final stage, where it is re-randomized among courts of a higher level led by judges who are specialised in family issues (as opposed to the judges in the Peace Courts). Only 7.6% of cases in our sample reach this stage, which is where the judicial process ends. Either party can start a new trial in the future to contest the award if they can prove a change of

---

<sup>3</sup>A Peace Court is a lower level court in which most basic judicial disputes are solved. Judges who work at these courts oversee different types of cases: family issues, commercial and labor law, among others. A Judicial District is a defined geographical area. It can span one or more ‘standard’ geopolitical districts. For instance, two geopolitical districts with a small population size can be merged into one Judicial District.

<sup>4</sup>For example, whether the case can be classified as a child support case: an individual suing a partner for alimony without having children is not a child support case.

circumstances. Child support cases are meant to be resolved in 30 business days from when the lawsuit was filed. However, in our data set this process lasts 48 days on average.

## 2.2 Statutory child support scheme

Peruvian Civil Law states that the objective of a child support trial is to determine the right amount of financial support to be paid by the defendant to their children. The judge has to make this decision according to the following criteria: a) the needs of the children who are named in the trial; b) the income of the defendant, and c) additional children the defendant must support. The law does not direct judges to consider the plaintiff's income<sup>5</sup> and, therefore, they do not put effort into finding out this information.

The plaintiff is required to outline the financial needs of the children who are the subject of the claim, for example, their food and clothing costs, and to provide evidence for this. However, in 80% of the cases, this information is missing. The most plausible explanation for this absence is that plaintiffs understand that this information is already contained in their claims. Indeed, in those few cases when the financial needs of the child are stated, we observe that claims are 1.4 times the financial needs on average (in 12% of the cases, claims and financial needs have the same value).

Regarding the second legal criterion, the income of the defendant, judges face two types of cases. In cases where the defendant works in the formal sector, their income is known and verifiable. The plaintiff or the defendant can provide wage receipts, or the justice system can get this information directly from the defendant's employer. In cases where the defendant works in the informal sector (either wage-employed or self-employed), his income cannot be verified. In such cases, judges might obtain a self-reported version of the defendant's income. In the absence of self-reported information, judges can make a best evidence assessment or take the minimum wage as a reference. Awards are given either in percentage terms if the defendant works in the formal sector, or in absolute terms if they work in the informal sector. Interestingly, the fraction of cases where defendants have informal jobs in our data (78%) is similar to the level of informality in the capital city of Peru (73%, according to official figures released in 2018 by the National Institute of Statistics and Informatics of Peru).

Finally, the judge must take into account whether the defendant has other offspring 18 years old or younger, and might obtain this information from the defendant themselves or from the plaintiff (although she has no incentives to reveal this information). It is worth noting that in 10% of the cases, parties are not married. In other words, a typical case consists of a

---

<sup>5</sup>This is in contrast with how child support decisions are made in developed countries. For instance, in the UK, child support law states that both parents are financially responsible for the costs of raising their children, and there is a default amount of child support a parent must pay: £39 a week for one child, £51 a week for two children, and £64 a week for three or more children. In interviews with Peruvian judges, it was explained to us that the custodial parent's income is not investigated as thoroughly because of the assumption that this parent is already devoting 100% of their time in taking care of the child, so judges assume this to be their fair share of the costs of raising the child.

single mother suing the father’s child, who might have other offspring with another woman. In our data set, we find that defendants have other underage offspring to support in 25% of the cases.

The legislation does not indicate how these variables should be weighted and how other pieces of information ought to affect awards at the intensive margin. Thus, it is at the discretion of each judge. The only firm rule is that the final amount should not represent more than 60% of the defendant’s income in total.

### **3 Data**

This paper uses data from two Peruvian administrative sources: virtual archives of judicial records (CEJ or “Consulta de Expedientes Judiciales”) and the national transparency agency (“La Contraloría”).

#### **3.1 Judicial Records**

We use publicly available documents from the CEJ relating to child support cases filed in Lima during 2017 and 2018. CEJ provides all records of each action taken by the parties and the judge assigned to each case. For a given case, we collected documents corresponding to the three stages of the process described in section 2.1: settlement hearing (first stage), litigation (second stage), and appeal (third and final stage). In the following subsections, we describe how we extracted variables from both documents.

##### **3.1.1 Settlement hearing**

This document is signed by the judge and records the parties’ attendance and their attorneys’ (if they were present), and the names and ages of the children who are the subject of the trial. As the main goal is for the parties to reach an agreement, the judge oversees the following steps: i) the plaintiff asks for an amount for child support, ii) the defendant either accepts or offers a different amount, iii) the judge suggests an amount, and iv) parties accept or reject the proposition. Unfortunately, most cases do not record this bargaining process and only show a no settlement/settlement outcome. We infer the judges’ gender from their full names shown in the digital signature and a Google Images search of official websites.

##### **3.1.2 Litigation**

This document is also signed by the judge<sup>6</sup> and contains the judge’s decision process and analysis. The complete document has three parts: legal framework, case analysis, and verdict.

---

<sup>6</sup>We only found a different judge in the litigation stage and settlement hearing in a few cases. This is mostly explained by an abnormal delay between these two stages such that the judge in charge of the Court was replaced.

The legal framework section is the same in every case and describes the three judicial criteria for determining child support. In the case analysis, the judge explains their reasoning based on the legal framework and the facts of the case. For the first criterion, the needs of the children, judges typically state their age, how much the mothers spend on them, and if they have any special needs such as a health condition. For the second criterion, the financial means of the defendant, the judge examines all his income sources, such as salary, businesses, and properties, should there be information about them. It is not necessary to thoroughly investigate the income of the defendant to establish child support according to the law, and this is especially so in cases where the respondent works in the informal sector. Finally, for the third criterion, the judge investigates whether the defendant has other dependent children to support.

### **3.1.3 Appealing**

This document is signed by the new judge and also contains their decision process and analysis, and the parties' appeal claims. We collected information on who appealed the previous judge's decision (defendant, plaintiff, or both) and whether the judge confirms or modifies the previous judge's decision. Regarding the parties' arguments, in virtually all cases that reach this stage no new arguments are provided beyond expressing their disagreement with the previous decision.

Table 1 shows a summary of the data collected. We show the descriptive statistics for all cases collected and for the data, limited to Judicial Districts where there is at least one female and one male judge (what we call 'randomised data'). Our data set begins with 2,814 child support cases in 33 Judicial Districts in Lima. After excluding Judicial Districts where judges are either all male or all female, our data set contains 2,391 cases. The cases were heard in 28 Judicial Districts comprising 69 unique courts: each Judicial District has 2.5 courts on average. The cases were assigned to 148 judges, 60.1% of whom were women. The average number of cases per judge was 16.2, with some judges having only 1 case and one having 74 cases. 27.4% of the cases reached an agreement during the settlement hearing and did not proceed to litigation.

Out of all the cases in our sample, 1,738 cases in total reached the litigation stage. These were assigned to 153 judges, 61.3% of whom were women. The average number of cases per judge was 12.2, with some judges having only 1 case and one having 81 cases in the sample. There were only 70 appeals (4.0% of the total amount), which were assigned among 29 judges. The representation of women among these third-stage judges is similar to the previous stages (62.1%).

Table 1: Sample characteristics

|   | All data<br>(1) | Randomised data<br>(2) |
|---|-----------------|------------------------|
| Number of Judicial Districts                | 33              | 28                     |
| Number of Courts                            | 76              | 69                     |
| Number of Courts within a Judicial District |                 |                        |
| Minimum                                     | 1               | 1                      |
| Maximum                                     | 6               | 6                      |
| Average                                     | 2.3             | 2.5                    |
| <i>Panel A. Settlement hearing</i>          |                 |                        |
| Number of judges                            | 160             | 148                    |
| Number of cases                             | 2,814           | 2,391                  |
| Cases per judge                             |                 |                        |
| Minimum                                     | 1               | 1                      |
| Maximum                                     | 81              | 74                     |
| Average                                     | 17.0            | 16.2                   |
| Female judges (%)                           | 58.1            | 60.1                   |
| Settlement (%)                              | 27.4            | 27.4                   |
| <i>Panel B. Litigation</i>                  |                 |                        |
| Number of judges                            | 155             | 142                    |
| Number of cases                             | 2,045           | 1,738                  |
| Cases per judge                             |                 |                        |
| Minimum                                     | 1               | 1                      |
| Maximum                                     | 65              | 65                     |
| Average                                     | 13.2            | 12.2                   |
| Female judges (%)                           | 59.4            | 61.3                   |
| Appealing (%)                               | 7.6             | 8.1                    |
| <i>Panel C. Appealing</i>                   |                 |                        |
| Number of judges                            | 45              | 29                     |
| Number of cases                             | 155             | 70                     |
| Cases per judge                             |                 |                        |
| Minimum                                     | 1               | 1                      |
| Maximum                                     | 16              | 11                     |
| Average                                     | 3.4             | 2.4                    |
| Female judges (%)                           | 66.7            | 62.1                   |

*Notes:* This table describes samples corresponding to the two stages (hearing and litigation) of child support cases. Samples contain cases filed in districts with at least one court led by a male judge and one court led by a female judge. Column (1), *All data*, includes all collected cases. Column (2), *Randomised data*, only includes cases corresponding to districts where there is at least one female and one male judge.

## 3.2 Transparency Agency

We supplement child support data by collecting judges' curricula vitae and affidavits on their assets and income. This is possible because judges are closely supervised by the Peruvian Transparency Agency to detect irregularities related to corruption.

From the CVs, we collected data on each judge's age, job status and years of experience as a titular judge. Judges are grouped into three main job status categories: titular, provisional, and supernumerary. Titular judges have been officially appointed by the judiciary after winning a public tender for a position in a specific court (e.g. Peace Court, Specialized Court, or Supreme Court). A provisional judge has also won a public tender for a position in a court, but they are 'provisionally' appointed to a higher Court because of shortages of judges. These appointments are temporary. Finally, due to there not being enough judges to handle all the legal burdens in Peru, there are public lists of supernumerary judges that can substitute for an appointed judge. Supernumerary judges are usually law practitioners who meet the prerequisites for the role. For example, to be a Peace Court supernumerary judge, one needs to be over 25 years of age and to have at least 3 years of professional experience practicing law; the prerequisites become stricter for higher courts.

Another transparency requirement is that judges declare their income and assets yearly. These affidavits include their monthly income from public and private sources, and a self-estimate of the monetary value of their assets. Judges' salaries are set according to the court they belong to, meaning there is no variation in wage income, so we used their asset valuations as proxies for how wealthy they are. It is worth mentioning, however, that these are only affidavits. We have no means of verifying the accuracy of these declarations.

## 4 Empirical Analysis

We start the analysis by showing how randomisation of cases to judges is performed to achieve causal identification. We then show our main results, first, through graphical evidence of the main causal effect. Then, we perform econometric estimations and conduct heterogeneity analyses. Finally, we address the potential selection bias of the sample during litigation if the likelihood of cases reaching that stage is affected by the judges' gender.

### 4.1 Identification condition

Identification is achieved by cases being randomly assigned to courts. This ensures a fair distribution of the caseload and also prevents plaintiffs from targeting their cases to specific judges.<sup>7</sup> As described in Section 2.1, Judicial Districts contain one or more courts, and each of them is led by only one judge. Since our main interest is the causal effect of the gender

---

<sup>7</sup>It is worth reiterating that cases are randomized to different courts, not necessarily judges, since they may rotate between different courts, or even Judicial Districts.

of the judge on child support decisions, our empirical analysis is restricted to the 29 Judicial Districts (out of 33) where there is at least one male and one female judge leading the courts.

The randomisation is conducted as follows. The plaintiff’s claim for child support is entered into the IT system by a front desk officer. The system randomly assigns the case to one of several courts in that Judicial District. The user guide provides a screenshot of the case input step and confirms that the randomisation is conducted in this way.<sup>8</sup> We highlight that it is impossible for the officer to manipulate the assignment of the case to a court. Moreover, this randomisation step has been confirmed by two separate sources in interviews conducted in Peru in 2019.<sup>9</sup>

To test empirically whether cases are indeed randomly assigned, we conduct balancing tests by the gender of judges. Panel A in Table 2 shows the differences in means for case characteristics observed at the settlement hearing after conditioning on district and year fixed effects. The lack of significant gender-based differences in the average number of children involved in the case, the presence of plaintiffs, defendants and their lawyers at the settlement hearing, whether the defendant was declared as a ‘defaulter’, and his job type are consistent with the random assignment assumption and suggest that our sample is balanced.

As our main analysis is based on cases that reached litigation, we also check whether case characteristics are balanced across female and male judges at this stage. In Panel B of Table 2, we show no evidence of imbalance in all these variables: the number of trial matter and non-trial matter children, whether trial matter children have health issues, the plaintiff’s claim, the level of information about the defendant’s income, whether he was declared as ‘defaulter’, his job type and whether the plaintiff and the defendant have assets. All these pieces taken together constitute strong evidence that cases were indeed randomised among female and male judges and that we can attribute differences in child support decisions to the judge’s gender, rather than case characteristics that could also affect those decisions.

## 4.2 Results

### 4.2.1 Preliminary Evidence

We start with a graphical illustration of how child support awards are distributed by gender for cases that reached litigation. To compare decisions in formal and informal cases, we standardise them separately and then pool them together. Figure 1 shows the density plots of raw awards depending on the judge’s gender. A vertical line marking the mean award is added for each density plot. The figure shows a clear pattern: although the shape of both curves is similar, the curve for female judges is farther to the left than that for male judges. The raw gender gap is 0.14 S.D, and this result holds even when looking at formal

---

<sup>8</sup>The user guide is publicly available ([click to link](#)).

<sup>9</sup>We interviewed the assistant of a judge who works in one of the courts in our study and a lawyer who had served as an attorney in child support cases.

Table 2: Case characteristics by the gender of judges

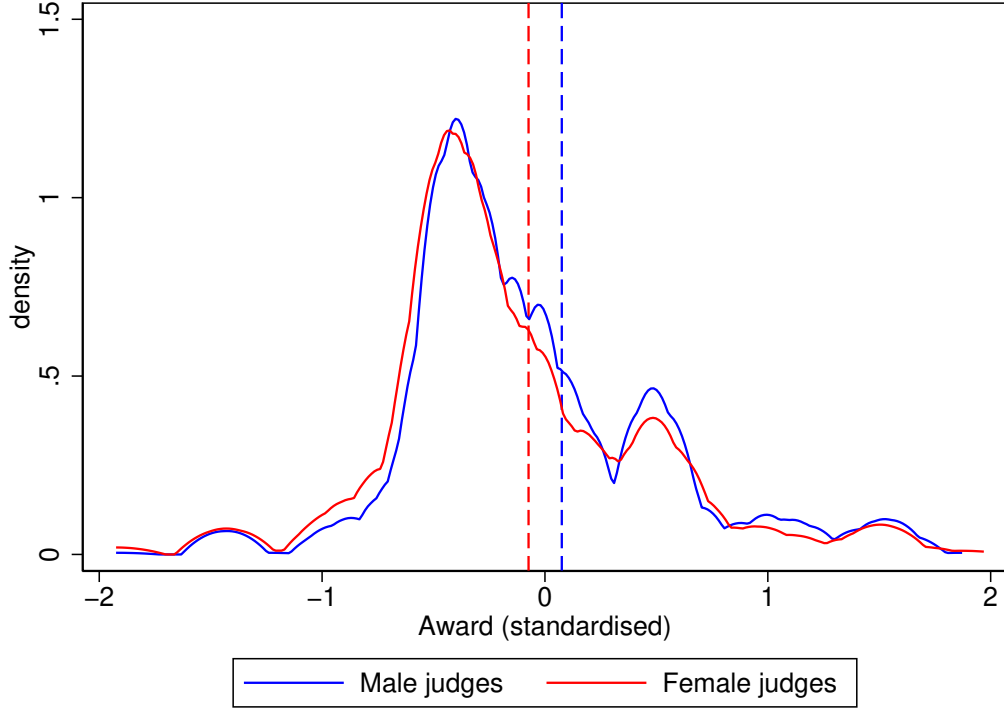
|                                       | Male judges          | Female judges        | Difference |                 |
|---------------------------------------|----------------------|----------------------|------------|-----------------|
|                                       | Mean/SE              | Mean/SE              | Mean       | <i>p</i> -value |
| <i>Panel A. Settlement hearing</i>    |                      |                      |            |                 |
| Number of children (trial matter)     | 1.34<br>(0.02)       | 1.33<br>(0.02)       | 0.01       | 0.79            |
| Plaintiff is present (%)              | 97.80<br>(0.50)      | 98.20<br>(0.40)      | -0.40      | 0.56            |
| Plaintiff's lawyer is present (%)     | 67.80<br>(0.50)      | 63.70<br>(0.40)      | 4.10       | 0.12            |
| Defendant is present (%)              | 64.60<br>(1.70)      | 65.10<br>(1.50)      | -0.50      | 0.83            |
| Defendant's lawyer is present (%)     | 35.50<br>(1.70)      | 35.90<br>(1.70)      | -0.40      | 0.87            |
| Defendant has a formal job (%)        | 19.90<br>(1.50)      | 18.20<br>(1.30)      | 1.70       | 0.40            |
| Observations                          | 1,062                | 1,329                |            |                 |
| <i>Panel A. Litigation</i>            |                      |                      |            |                 |
| Number of children (trial matter)     | 1.35<br>(0.03)       | 1.34<br>(0.02)       | 0.01       | 0.72            |
| Child has health issues (%)           | 7.40<br>(1.90)       | 7.30<br>(1.30)       | 0.10       | 0.97            |
| Number of children (non-trial matter) | 0.35<br>(0.04)       | 0.38<br>(0.03)       | -0.03      | 0.47            |
| Claim (z-score)                       | -0.03<br>(0.05)      | -0.04<br>(0.03)      | 0.01       | 0.86            |
| Plaintiff reports def.'s income (%)   | 53.40<br>(3.40)      | 53.30<br>(3.40)      | 0.10       | 0.98            |
| Def.'s income (plaintiff's version)   | 4,037.60<br>(361.60) | 3,941.20<br>(213.20) | 96.40      | 0.82            |
| Defendant reports his income (%)      | 43.80<br>(2.80)      | 45.10<br>(2.80)      | -1.30      | 0.74            |
| Def.'s income (self-report)           | 1,512.70<br>(100.80) | 1,401.90<br>(76.30)  | 110.80     | 0.38            |
| Plaintiff has assets (%)              | 0.80<br>(0.30)       | 0.10<br>(0.40)       | 0.70       | 0.41            |
| Defendant has assets (%)              | 6.00<br>(1.00)       | 7.70<br>(0.90)       | -1.70      | 0.20            |
| Defendant has a formal job (%)        | 22.20<br>(1.60)      | 21.20<br>(1.70)      | 1.00       | 0.69            |
| Defendant is defaulter (%)            | 58.60<br>(2.00)      | 60.40<br>(2.40)      | -1.80      | 0.56            |
| Observations                          | 857                  | 881                  |            |                 |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table reports t-tests for the differences in means of the characteristics of cases during the hearing and litigation stages. A non-significant result in the *p*-value column suggests there are no significant differences among these individual characteristics. In other words, the sample is balanced.



and informal trials separately.<sup>10</sup>

Figure 1: Kernel distribution of awards by judge’s gender (all cases)



*Notes:* Lines show the kernel densities of standardised awards set by male and female judges in all cases. Dashed black and red vertical lines indicate the award means given by male and female judges, respectively.

#### 4.2.2 Specification

The random assignment of cases to courts led by one judge provides a straightforward source of identification of causal effects. We estimate two types of specifications. We use the first type to study gender differences in total amounts of child support awarded. It is of the following form:

$$(1) \quad z(y_{tj}) = \beta_0 + \beta_1 Female_{j(t)} + X'_t \gamma + \theta_d + \theta_y + \epsilon_{tj},$$

In equation (1), the outcome of interest is the z-score of award  $y_{tj}$  in trial  $t$  assigned to judge  $j$ .  $Female_{j(t)}$  is an indicator variable for whether trial  $t$  was assigned to a female judge

<sup>10</sup>In Figures 4 and 5 in the Appendix, we show histograms of awards for formal and informal cases separately. Both graphs show that female judges set lower awards on average irrespective of the type of case. Further, they are also informative about differences in decisions about formal and informal income. Figure 4 shows that, in formal cases, child support amounts are often set in multiples of 10 p.p. (20%, 30%, 40%, 50%, and 60%, which is the maximum value set by the law), while Figure 5 -informal cases- shows a more continuous distribution of awards.

$j$ . The vector of controls  $X_t$  includes the number of children involved in the trial, whether at least one of them has health issues, additional children the defendant must support, whether the defendant has a formal job, whether he was declared a ‘defaulter’, and whether he has financial assets.

The second type of specification has the following form:

$$(2) \quad z\left(\frac{y_{tj}}{n_t}\right) = \beta_0 + \beta_1 Female_{j(t)} + X_t' \gamma + \theta_d + \theta_y + \epsilon_{tj},$$

Equation (2) is identical to equation (1) except that the outcome variable is adjusted by  $n_t$ , the number of children involved in the trial. We use this specification for two reasons. First, the effect on the award per child has a more intuitive interpretation than on the overall award. Second, judges argued that they determine per child and not overall amounts of child support.<sup>11</sup>

In both specifications, the main coefficient of interest is  $\beta_1$  which estimates the relative effect of a female judge on child support awards. Since cases are randomly assigned to courts within a Judicial District, we include district fixed effects  $\theta_d$ . We also add year fixed effects  $\theta_t$  to allow for time trends common to all courts. All regression models allow for clustering at the court and judge levels. For the sake of robustness, we control for the number of children (involved and not involved in the trial) in both a linear and non-linear fashion.

### 4.2.3 Main effects

Table 3 contains the results of the pooled OLS estimations of equations (1) and (2). In columns (1), (2), and (3), the total standardised award is the dependent variable. In columns (4), (5), and (6), the dependent variable is the standardised award per child. Column (1) shows that when a case is assigned to a female judge, the total award is on average 0.135 standard deviations lower than when it is assigned to a male judge. This result changes slightly but remains significant when adding controls, as shown in columns (2) and (3). Furthermore, we find a higher impact when the award is adjusted by the number of children (0.186 S.D.). In the Appendix, we present estimations controlling for variables that are not observable for all cases, such as the plaintiff’s claim and the average age of children. Despite the loss in data size (209 observations or 12% of the data), the effect remains significant.

To gain some insights into the economic significance of these results, we compare the monetary value of our results to consumption and earning points of reference. Based on cases where child support is awarded as absolute amounts of money, Table 12 in the Appendix shows that the judge gender effect is equivalent to around 42.12 units of national currency. This is 12.24% of the basic market basket value per person (344 units in 2018) and 4.5% of the minimum wage (930 units) in 2018. Moreover, the magnitude of our estimate (0.181 +/- 0.06

---

<sup>11</sup>We contacted three judges from our sample who accepted a meeting with us for an interview. We asked them about the decision-making process and all of them concurred with this reasoning.

Table 3: Judge’s gender effects on child support awards

|                       | Total award (z-score) |                     |                     | Award per child (z-score) |                      |                      |
|-----------------------|-----------------------|---------------------|---------------------|---------------------------|----------------------|----------------------|
|                       | (1)                   | (2)                 | (3)                 | (4)                       | (5)                  | (6)                  |
| Female judge          | -0.135**<br>(0.052)   | -0.130**<br>(0.053) | -0.137**<br>(0.053) | -0.186***<br>(0.057)      | -0.194***<br>(0.059) | -0.181***<br>(0.060) |
| District FE           | Yes                   | Yes                 | Yes                 | Yes                       | Yes                  | Yes                  |
| Year FE               | Yes                   | Yes                 | Yes                 | Yes                       | Yes                  | Yes                  |
| Case controls         | No                    | Yes                 | Yes                 | No                        | Yes                  | Yes                  |
| Children (linear)     |                       | Yes                 | No                  |                           | Yes                  | No                   |
| Children (non-linear) |                       | No                  | Yes                 |                           | No                   | Yes                  |
| Observations          | 1,738                 | 1,738               | 1,738               | 1,738                     | 1,738                | 1,738                |
| N of judges           | 142                   | 142                 | 142                 | 142                       | 142                  | 142                  |
| R2                    | 0.084                 | 0.268               | 0.279               | 0.131                     | 0.270                | 0.276                |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect on child support awards of the judge’s gender. Columns (1), (2), and (3) use the standardised award as a dependent variable. Columns (4), (5) and (6) use the standardised award per child as a dependent variable. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Case controls* include the number of children involved and non-involved in the trial, dummy variables indicating whether at least one child (involved in the trial) has health issues, whether the defendant was a defaulter, whether the case is formal (defendant’s income is observable), and whether the defendant has assets. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

standard deviations, shown in column (6) of Table 3) is in line with previous causal estimates of judicial gender effects. [Knepper \(2018\)](#), for instance, finds a judicial gender effect of 0.25 standard deviations on settlement and win rates in workplace sex discrimination cases.

#### 4.2.4 Heterogeneity analysis

To explore whether our results are driven by other observable case characteristics, we re-estimate equations (1) and (2), adding interaction effects. The results of these estimations are found in Table 4. The dependent variables are defined as in Table 3. However, columns (1) and (3) in Table 4 include the full set of controls, while (2) and (4) add their interactions with our main explanatory variable.

The heterogeneity analysis shows one notable result. The treatment effect is conditioned by the number of children involved in the trial: the higher the number of children, the lower the difference between female and male judges in child support awarded. A mechanical explanation for this finding is the legal cap on awards: judges are allowed by law to allocate a child support amount that, at the maximum, represents 60% of the defendant’s income. Convergence between female and male judges is expected since each additional child reduces

Table 4: Judge's gender effects on child support awards - Heterogeneity analysis

|                                 | Total award (z score) |                      | Award per child (z score) |                      |
|---------------------------------|-----------------------|----------------------|---------------------------|----------------------|
|                                 | (1)                   | (2)                  | (3)                       | (4)                  |
| Female judge                    | -0.130**<br>(0.053)   | -0.281**<br>(0.133)  | -0.194***<br>(0.059)      | -0.330**<br>(0.140)  |
| Children (involved)             | 0.566***<br>(0.051)   | 0.500***<br>(0.058)  | -0.495***<br>(0.032)      | -0.543***<br>(0.042) |
| Children (non-involved)         | -0.241***<br>(0.027)  | -0.227***<br>(0.049) | -0.260***<br>(0.030)      | -0.252***<br>(0.056) |
| Defaulter                       | -0.147**<br>(0.057)   | -0.125<br>(0.082)    | -0.148***<br>(0.048)      | -0.152**<br>(0.074)  |
| Formal job                      | -0.0852<br>(0.081)    | -0.0524<br>(0.133)   | -0.0665<br>(0.080)        | -0.0415<br>(0.128)   |
| Health issues                   | 0.0126<br>(0.051)     | -0.0778<br>(0.071)   | 0.0683<br>(0.068)         | -0.0393<br>(0.090)   |
| Assets                          | 0.469***<br>(0.145)   | 0.588*<br>(0.297)    | 0.532***<br>(0.141)       | 0.661**<br>(0.295)   |
| (Female) × Children (trial)     |                       | 0.146*<br>(0.086)    |                           | 0.106**<br>(0.046)   |
| (Female) × Children (non-trial) |                       | -0.021<br>(0.060)    |                           | -0.011<br>(0.067)    |
| (Female) × Defaulter            |                       | -0.068<br>(0.140)    |                           | -0.055<br>(0.147)    |
| (Female) × Formal job           |                       | -0.032<br>(0.086)    |                           | 0.017<br>(0.087)     |
| (Female) × Health issues        |                       | 0.189*<br>(0.109)    |                           | 0.225<br>(0.149)     |
| (Female) × Assets               |                       | -0.204<br>(0.303)    |                           | -0.225<br>(0.306)    |
| Observations                    | 1,738                 | 1,738                | 1,738                     | 1,738                |
| N of judges                     | 142                   | 142                  | 142                       | 142                  |
| R2                              | 0.268                 | 0.271                | 0.270                     | 0.272                |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents the heterogeneity analysis of our main specification. We include the number of children involved and non-involved in the trial, and variables indicating whether children have health issues and the defendant was a defaulter/has a formal job/assets. We include district and year fixed effects. Standard errors in parentheses clustered at the court and judge levels.

the total potential child support amount. This would imply that gender differences in judicial decision-making might be maximized when there is only one child in need of child support. None of the other controls seems to condition the gap, regardless of how the dependent variable is defined.

### 4.3 Sample selection bias

Up to this point, we have overlooked judges' decision-making process. However, it is relevant because it tells us whether the litigation stage is the best stage for studying gender differences in judicial decisions. This is especially relevant in our context since judges' main goal at the hearing stage is to encourage parties to settle and avoid litigation, as explained in Section 2.1.<sup>12</sup> From a theoretical point of view, the decision of the parties to settle or litigate (pretrial outcome) might be influenced by their assessment of the likely child support decision (trial outcome). If any party believes that the trial outcome will depend on the judge's gender (for instance, female judges setting lower amounts of child support than male judges), we might observe different litigation rates in cases assigned to female and male judges. This might cause a sample selection bias in the litigation stage, as [Knepper \(2018\)](#) finds in workplace sex discrimination cases.

We test the hypothesis that the gender of the judge has an effect on the probability of settlement by exploiting the random assignment of cases to judges. We first conduct the analysis using the full randomised sample. However, given that settlement is not possible if any of the parties is absent in the settlement hearing, we also test the hypothesis on the sub-sample of cases where both parties attended the meeting and there was a chance for the judge to influence directly the decision to settle. The specification is:

$$(3) \quad \mathbb{1}[Settle_{ij} = 1] = \beta_0 + \beta_1 Female_{j(i)} + X_i' \gamma + \theta_d + \theta_y + \epsilon_{ij},$$

Where  $Settle_{ij}$  is an indicator variable for whether there is agreement over a child support amount between parties in case  $i$  assigned to judge  $j$  at the hearing.  $Female_{j(i)}$  is an indicator variable for whether case  $i$  was assigned to a female judge  $j$ . The vector of controls  $X_i$  include the number of children involved in the case, the presence of lawyers, and whether the defendant has a formal job.<sup>13</sup>  $\theta_d$  and  $\theta_y$  are district and year fixed effects.

Table 5 shows the estimated impact of the judge's gender on the likelihood of parties settling from equation (3). In both the full and restricted samples, results suggest no sig-

<sup>12</sup>In stark contrast with figures from previous studies where litigation rates are low (5% in discrimination cases, [Knepper \(2018\)](#), and 20% in civil cases, [Kiser, Asher and McShane \(2008\)](#)), in our sample over 73% of cases failed to conciliate and proceeded to litigation.

<sup>13</sup>For cases that do not settle, the respondent's job type is observed at the litigation stage. For cases that settle, we infer the job type from the format of the agreed child support: if expressed as a percentage of income, we assume the respondent has a formal job, whereas if expressed as a fixed amount of money, we assume he has an informal job.

Table 5: Judge’s gender effect on the likelihood of settlement

|                  | Full sample      |                  | Restricted sample |                  |
|------------------|------------------|------------------|-------------------|------------------|
|                  | (1)              | (2)              | (3)               | (4)              |
| Female judge     | 0.036<br>(0.027) | 0.040<br>(0.026) | 0.042<br>(0.042)  | 0.056<br>(0.043) |
| District FE      | Yes              | Yes              | Yes               | Yes              |
| Year FE          | Yes              | Yes              | Yes               | Yes              |
| Case controls    | No               | Yes              | No                | Yes              |
| Observations     | 2,389            | 2,239            | 1,506             | 1,406            |
| Number of judges | 147              | 142              | 135               | 130              |
| Pseudo $R^2$     | 0.028            | 0.286            | 0.061             | 0.121            |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect on the likelihood of settlement of the judge’s gender. Columns (1) and (2) use the full sample. In columns (3) and (4), we restrict the sample to cases where both parties attended the settlement hearing. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Case controls* include the number of children involved in the trial, dummy variables indicating the presence of the parties and their lawyers, and whether the defendant has a formal job. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

nificant impact of the gender of judges on the probability of parties avoiding the litigation stage. To explain this result, it is worth remembering that settlement rates are low in child support cases (only 27% of cases settle). In this regard, we expect that before taking the case to the judicial system, the parties discussed between themselves, but did not come to an agreement, about child support. Therefore, once a case reaches the judicial system and most of the monetary and non-monetary costs are assumed by the parties, judges might have little room to change their minds about avoiding the litigation stage. As a consequence, it is indistinct whether the judge is male or female. These results support the suitability of the litigation stage to study gender differences in child support decisions.

## 5 Mechanisms

There are several potential explanations for the gender gap in child support decisions. These are the ones we explore in this section: first, female and male judges might have different views about the social norms for a plaintiff - typically female and a sole caregiver - and a defendant - typically male and a breadwinner. If social norms are the main explanation for the gender gap, we would expect to see individual characteristics of judges (such as age, for example) and the gender composition of the workplace exerting a moderating effect.

The second mechanism we explore is a difference in the legal objectives female and male judges pursue during a child support trial, beyond determining the ‘right’ amount of child

support. We examine two of these additional objectives: reducing the likelihood of appeal (setting an award that both defendant and plaintiff perceive as ‘fair enough’) or maximising compliance with the verdict (specifically for cases in which the income of the defendant is unknown, setting an award that the defendant is more likely to comply with).

Our unique setting allows us to study another mechanism that, to the best of our knowledge, has not been studied in the gender and judicial decision making literature: whether male and female judges assess incomplete information differently. In Peru, 73% of the workforce is in the informal labor market, which means that their labor income is not verifiable. Judges have to estimate their income as the basis for an award decision. We hypothesise that a gender gap in awards could be due to how female and male judges estimate income differently.

We show that there is no evidence supporting the social norm interpretation of the gender gap in judicial decisions. Moreover, we find no evidence that female and male judges pursue different judicial goals. Instead, we find evidence consistent with gender differences in information assessment: when the defendant’s income is non-observable, female judges rely less on the plaintiff’s claim to form beliefs about his income.

## 5.1 Social norms

Peru is an example of a country with a ‘traditional’ view of gender roles: men are expected to be the breadwinners and women the caregivers. We observe this empirically in the Peruvian child support context in at least two ways. First, women are usually granted custody of the children. Our data set shows that in virtually all cases the mother is the custodial parent who is suing the father for child support. Second, when deciding over a child support amount, judges only take into account the financial situation of the father, and not of the mother, as explained in Section 2.2. We proxy the degree of support for this traditional social norm by the amount of child support awarded: the higher the award, the higher the support for traditional social norms. Thus, we interpret our main result as female judges being less supportive of that norm than their male counterparts.

From a theoretical perspective, the way norms influence an individual’s behaviour is characterised by three elements. First, a reference group to which the individuals belong. Second, expectations as to what that group thinks about the social norm. Finally, the expectation that, if one deviates from the norm, the reference group may sanction them (Bicchieri, 2017). In the following subsections, we focus on the role of reference groups and test norm theory predictions from two approaches. First, we look at the available socioeconomic and demographic characteristics of judges in our sample. We explore, for example, whether there are differences in judicial decision-making depending on the judges’ socioeconomic contexts or cohort of birth. Second, we look at the gender composition of their workplaces at both the court and Judicial District levels to test whether the gender gap changes depending on the

proportion of male coworkers in the office.

### 5.1.1 Socioeconomic and demographic characteristics

As detailed in Section 3.2, we collected data on age, self-reported wealth, job status (titular or supernumerary), and experience being a titular judge. We use these individual characteristics to sort our sample into socioeconomic groups and time periods mapping to different gender norms. We divide our analysis into two parts. First, we estimate the effects of these characteristics on child support decisions and explore whether the gender gap remains. Second, we look at whether these effects are different for female and male judges.

We hypothesise older judges show more support for traditional gender roles by awarding larger amounts of child support to female plaintiffs. Conversely, assuming wealthier and high-status judges come from more favorable socioeconomic conditions (and thus have had more access to education), we should expect wealth and job status to be negatively correlated with support for traditional gender norms, and thus associated with lower amounts of child support.

It is important to note that the effect of these additional characteristics can be interpreted as causal based on the random assignment of cases to judges. We test whether these effects are different for female and male judges by interacting each individual characteristic with their gender. Our hypothesis is that there are significant qualitative differences in the life experiences of male and female judges of the same age, wealth levels, or job status. For instance, regarding the effect of age, it is fair to assume that it was more difficult for women to become judges in the past than in the present, as the legal profession is traditionally male-dominated. Therefore we expect that having overcome these barriers, older women have a more progressive view of social norms than younger women, and that this would not be the case when comparing older versus younger men.

We start our estimations by comparing female and male judges along their socioeconomic and demographic characteristics. Table 6 shows that there is no evidence that female and male judges differ in these observable variables. As a consequence, we might expect the effect of gender to remain significant after adding these additional characteristics to our baseline regression.

To test whether our predictions about norms hold, we estimate the effect of each characteristic on the standardised total child support award and the standardised award per child. The results are in Table 7. In columns (1) and (3), we find that older judges award lower amounts of child support than younger judges, although the difference appears small. We also find that higher-status judges award higher amounts of child support in total. Despite these results, the gender effect remains highly significant and there is no evidence that its magnitude is affected. Results suggest that none of these characteristics moderate the gender effect on child support awards.



Table 6: Judge characteristics by gender

|                                  | Male judges     | Female judges   | Difference |                 |
|----------------------------------|-----------------|-----------------|------------|-----------------|
|                                  | Mean/SE         | Mean/SE         | Mean       | <i>p</i> -value |
| Age (in years)                   | 42.94<br>(1.14) | 43.20<br>(0.87) | -0.26      | 0.86            |
| Status (titular)                 | 0.46<br>(0.07)  | 0.36<br>(0.05)  | 0.10       | 0.25            |
| Experience as titular (in years) | 2.55<br>(0.61)  | 2.14<br>(0.46)  | 0.41       | 0.59            |
| Wealth (z-score)                 | -0.01<br>(0.17) | -0.16<br>(0.12) | 0.15       | 0.47            |
| Observations                     | 55              | 87              |            |                 |

*Note:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table reports t-tests for the differences in means of the ages, job status (titular or supernumerary judge), years of experience as a titular judge, and wealth (z-score) of female and male judges who handled cases that reached the litigation stage. A non-significant result in the *p*-value column suggests there are no significant differences among these individual characteristics. In other words, the sample is balanced.

The signs of the effects of age and status deserve some discussion as they are at odds with our theoretical predictions. In this regard, [Kuran \(1995\)](#) provides a framework to explain why individuals who have a different view on norms do not necessarily reveal their preferences. Individuals who might want to deviate from a norm might not do so if they believe a high proportion of their reference group supports it; what the author calls ‘falsifying their preferences’. This issue is highly relevant if they misperceive what the majority actually prefers. For instance, based on data from 60 countries, [Bursztyn et al. \(2023\)](#) report that this is the case for society’s support for allowing women to work outside the home, and for prioritizing them when hiring for leadership positions. This is especially true in less gender-equal countries. Moreover, [Bursztyn, Gonzales and Yanagizawa-Drott \(2020\)](#) show how correcting husbands’ inaccurate beliefs about society’s support for women working outside the home in Saudi Arabia led them to help their wives switch from working at home to outside of it.

Having found some evidence that the age and job status of judges have an effect on child support awards, we further test whether there are differences between female and male judges. In Table 7, columns (2) and (4), we add the estimated effects of the interactions between the gender of judges and every one of their socioeconomic and demographic characteristics on child support awards. We find no gender differential effects in relation to age, job status, and years of experience on the amount of child support awarded, regardless of the specification of the dependent variable. We only find a slightly significant (10% level) difference in the effect of wealth between male and female judges of about 0.12 S.D.

TO summarize, we find no convincing evidence that norms affect judges’ decisions. How-

Table 7: Judge characteristics' effects on child support awards

|                                  | Total award (z score) |                     | Award per child (z score) |                     |
|----------------------------------|-----------------------|---------------------|---------------------------|---------------------|
|                                  | (1)                   | (2)                 | (3)                       | (4)                 |
| Female judge                     | -0.166***<br>(0.057)  | -0.350<br>(0.417)   | -0.187***<br>(0.065)      | -0.269<br>(0.422)   |
| Age                              | -0.011**<br>(0.005)   | -0.013*<br>(0.007)  | -0.013**<br>(0.005)       | -0.0132<br>(0.008)  |
| Job status                       | 0.182**<br>(0.088)    | 0.094<br>(0.138)    | 0.223***<br>(0.082)       | 0.134<br>(0.131)    |
| Experience (as titular judge)    | 0.008<br>(0.011)      | 0.012<br>(0.016)    | 0.008<br>(0.011)          | 0.006<br>(0.017)    |
| Wealth (z-score)                 | -0.058<br>(0.044)     | -0.098**<br>(0.045) | -0.056<br>(0.034)         | -0.090**<br>(0.035) |
| Female judge $\times$ Age        |                       | 0.003<br>(0.009)    |                           | -0.001<br>(0.009)   |
| Female judge $\times$ Job status |                       | 0.124<br>(0.172)    |                           | 0.140<br>(0.172)    |
| Female judge $\times$ Experience |                       | -0.013<br>(0.018)   |                           | 0.001<br>(0.019)    |
| Female judge $\times$ Wealth     |                       | 0.124*<br>(0.067)   |                           | 0.084<br>(0.054)    |
| Observations                     | 1,667                 | 1,667               | 1,667                     | 1,667               |
| N of judges                      | 136                   | 136                 | 136                       | 136                 |
| R2                               | 0.285                 | 0.288               | 0.276                     | 0.279               |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect on child support awards of judges' characteristics. Columns (1) and (2) use the standardised award as a dependent variable. Columns (3) and (4) use the standardised award per child as a dependent variable. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Age* is the age of the judge at the moment the verdict was released. *Job status* is an indicator variable for whether the case was assigned to a titular or supernumerary judge. *Experience* is the number of years the judge assigned to the case has worked as a titular judge. *Wealth* is the z-score of the self-reported wealth of the judge who was assigned to the case. We incorporate the interaction of each of these variables with the *Female judge* indicator. We also include the same *Case controls* as in the main regression and add district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

ever, we should not ignore that judges’ misperceptions about how progressive or conservative their groups of reference are may influence their rulings. Furthermore, we cannot discard other potentially observable individual characteristics. For instance, whether female judges have more children or if they are married or divorced at different rates than male judges might be important moderators of our main effect. This is a limitation of our data and analysis.

### 5.1.2 Workplace gender composition

The behaviour of women in the workplace might be affected by how traditionally male-dominated the field is. The literature describes a ‘Queen Bee Syndrome’, in which senior women distance themselves from other women and are extremely critical of them if they are subordinates. They also acquire more ‘masculine’ traits (Derks et al. (2011)). The judiciary is a typical example of this. Thus, we would expect the gender gap in child support awards in a male-dominated workplace to be relatively larger vis-à-vis a context with a smaller concentration of men.

We address this hypothesis in two different ways depending on the social group of reference. First, we constrain the reference group to the court, which is composed of the leading judge and a team of lawyers who assist them.<sup>14</sup> As a result, when a case is randomly assigned to a court, it is also assigned to a random proportion of male assistants. We test whether this allocation moderates the impact of a female judge being assigned. The specification is:

$$(4) \quad z(y_{tj}) = \beta_0 + \beta_1 F_{t(j)} + \beta_2 M_{t(j)} + \beta_3 F_{t(j)} \times M_{t(j)} + X_t' \gamma + \theta_d + \theta_y + \epsilon_{tj},$$

Equation (4) is similar to equation (1) except that the former includes  $M_{t(j)}$ , defined as the proportion of male assistants who work at the court led by judge  $j$  which trial  $t$  was assigned to. The main coefficient of interest is  $\beta_3$ , which estimates whether the effect on the award when the case is assigned to a female judge is moderated by the proportion of male assistants.

In Table 8 we show the estimation results for equation (4) for the same outcomes as in equation (1). Columns (1) and (3) in Table 6 show that the proportion of male assistants has no significant effect on child support decisions. More importantly, the interaction terms shown in columns (2) and (4) show no evidence that the impact of the judge’s gender on child support decisions varies according to the fraction of male assistants. We find no evidence that judges’ assistants influence female judges to draw different conclusions to male judges.

We shift our approach and define the reference group as all judges in a Judicial District. We believe that this constitutes a more relevant reference group, as a judge might compare their decisions with those of their peers in the district. However, while the gender of the judge assigned to a case is random within a district, the gender composition of judges across districts

---

<sup>14</sup>These assistants, known locally as ‘*especialistas*’, help the judge with administrative work and writing legal documents.

Table 8: Proportion of males in the courts and child support awards

|                                       | Total award (z score) |                   | Award per child (z score) |                   |
|---------------------------------------|-----------------------|-------------------|---------------------------|-------------------|
|                                       | (1)                   | (2)               | (3)                       | (4)               |
| Male proportion                       | -0.156<br>(0.099)     | -0.078<br>(0.156) | -0.066<br>(0.113)         | 0.093<br>(0.190)  |
| Female judge                          |                       | -0.075<br>(0.098) |                           | -0.055<br>(0.117) |
| Male proportion $\times$ Female judge |                       | -0.169<br>(0.184) |                           | -0.312<br>(0.233) |
| Observations                          | 1,738                 | 1,738             | 1,738                     | 1,738             |
| N of judges                           | 142                   | 142               | 142                       | 142               |
| R2                                    | 0.266                 | 0.270             | 0.256                     | 0.263             |

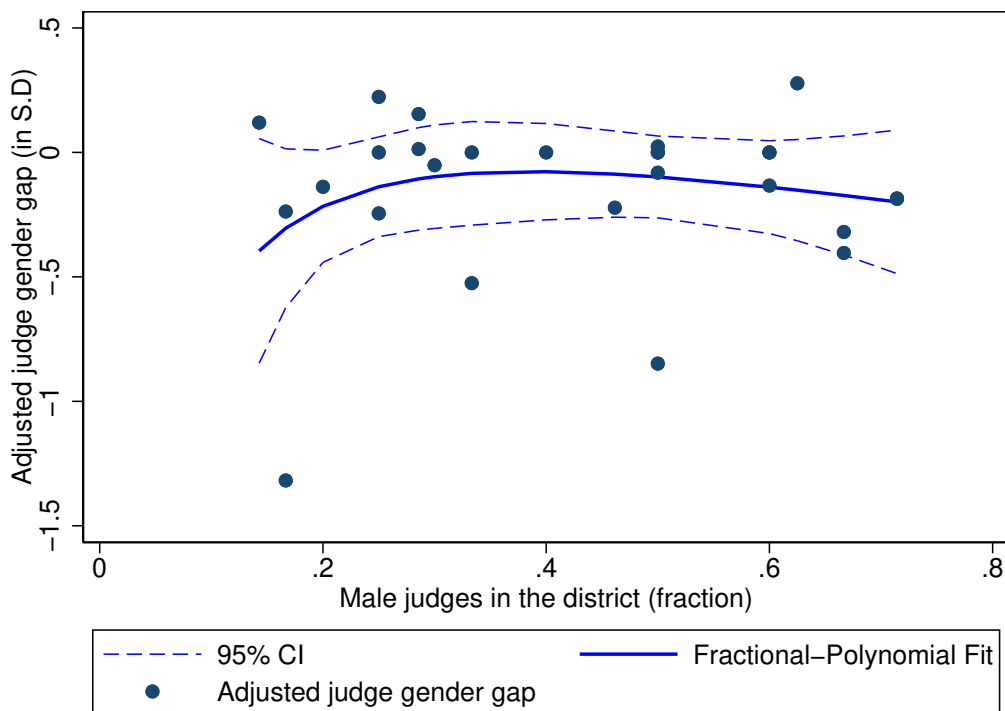
*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effects on child support awards of the proportion of male coworkers and the judge’s gender. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Male proportion* denotes the proportion of male coworkers within the court. We also incorporate the interaction of these variables. We further include the same *Case controls* as in the main regression and add district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

is not (see Section 4.1). Although we take into account differences in case characteristics across districts for this analysis (i.e., some districts receive cases with a higher average number of children than others), the relationship between the gender gap in child support decisions and the proportion of male judges across districts should be understood as descriptive.

Figure 2 is a plot of the adjusted<sup>15</sup> gender gap in child support decisions and the proportion of male judges at the district level. As our data covers 27 districts in which there is at least one female and one male judge, Figure 2 contains 27 points. To allow for flexibility and not impose a functional form on the relationship between the gender gap and the proportion of male judges across districts, we add a fractional-polynomial prediction curve, which shows no clear pattern between these two variables across districts. All these results suggest that the behaviour of female and male judges is not affected by the gender composition of the workplace.

<sup>15</sup>To compute the adjusted gender gap at the district level, we proceed as follows. We start by running a regression of the z-score of the award per child on the number of children involved and not involved in the trial (non-linear fashion), dummy variables capturing whether defendants were declared as ‘defaulters’ and have a formal job, and court and year fixed effects. Second, we estimate the errors from that regression. Finally, we calculate the mean of the estimated error by the gender of the judge for each district and compute the difference (mean of the estimated error in cases assigned to female judges minus that of cases assigned to male judges). In this way, we attempt to capture the gender gap in awards after controlling for differences in observable case characteristics across districts.

Figure 2: Gender gap in awards and proportion of male judges across districts



*Notes:* The figure plots the adjusted gender gap (after taking into account observable case characteristics across districts) against the proportion of male judges at the district level. The blue line represents the prediction from a fractional-polynomial regression. Dashed lines show a 95% confidence interval.

## 5.2 Gender differences in alternative judicial goals

In addition to different approaches to gender norms, the gender gap in judicial decision-making might be explained by female and male judges pursuing different judicial goals. In this subsection, we explore two of those: minimising the likelihood of appeal and maximising the defendants' compliance with the ruling in informal cases.

### 5.2.1 Minimising the likelihood of appeal

We hypothesise that by setting awards that leave both parties in conformity and unwilling to appeal, judges aim to expedite the process to deliver timely child protection. We propose a very simple framework, in which the judge will choose a child support amount  $a$  that minimises the likelihood of appeal from either side. The defendant can afford to transfer  $\bar{y}$  to the plaintiff and the level of expenses  $\underline{e}$  is the minimum required to meet the child's needs. For a given award  $a$ , there are three possible scenarios. First, if  $a > \bar{y}$ , it is highly likely that the defendant will appeal (hard appeal). Second, if  $\underline{e} > a$ , it is highly likely that the plaintiff will appeal (hard appeal). In the third scenario  $\bar{y} > a > \underline{e}$ . In this case, neither party has

a hard incentive to appeal. However, either or both might want to appeal to improve their position. We expect the likelihood of appealing in this last case to be substantially lower than in the first two cases (soft appeal).

We assume that judges do not know the true value of  $\bar{y}$  (most defendants work in the informal sector) but have a good understanding of  $\underline{e}$  (based on their experience and medical/psychological recommendations). A judge that wants to minimise the likelihood of an appeal should set the award at  $\bar{y} > a > \underline{e}$ . Because we assume that judges have a good understanding of  $\underline{e}$ , they are unlikely to set  $a < \underline{e}$ . It then follows that our finding regarding female judges setting lower awards reflects an attempt to avoid hard appeals by defendants. If that were the case, our framework should predict lower rates of appeals by defendants in cases assigned to female judges.

We start by comparing rates of appeals against decisions by female judges. The specification is:

$$(5) \quad \mathbb{1}[Appeal_{tj} = 1] = \beta_0 + \beta_1 Female_{j(t)} + X'_t \gamma + \theta_d + \theta_y + \epsilon_{tj},$$

Where  $Appeal_{tj}$  is an indicator variable for an appeal in trial  $t$  assigned to judge  $j$ .  $Female_{j(i)}$  is an indicator variable for whether trial  $t$  was assigned to a female judge  $j$ . The vector of controls  $X_t$  include all observable trial characteristics as in equation (1). Finally,  $\theta_d$  and  $\theta_y$  are district and year fixed effects, respectively.

Table 9: Judge’s gender effect on appeals

|                       | (1)              | (2)              | (3)              |
|-----------------------|------------------|------------------|------------------|
| Female judge          | 0.008<br>(0.010) | 0.009<br>(0.010) | 0.008<br>(0.010) |
| District FE           | Yes              | Yes              | Yes              |
| Year FE               | Yes              | Yes              | Yes              |
| Case controls         | No               | Yes              | Yes              |
| Children (linear)     |                  | Yes              | No               |
| Children (non-linear) |                  | No               | Yes              |
| Observations          | 1,738            | 1,738            | 1,738            |
| Number of judges      | 142              | 142              | 142              |
| $R^2$                 | 0.077            | 0.104            | 0.111            |

*Note:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect of the judge’s gender on appeals. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Case controls* include the number of children involved and non-involved in the trial, dummy variables indicating whether at least one child (involved in the trial) has health issues, whether the case is formal (defendant’s income is observable), whether the defendant was a defaulter, and whether he has assets. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

Table 9 shows that the gender of the judge does not affect rates of appeal. This suggests that female judges setting lower amounts of child support does not lead to lower appeal rates in general. We offer two interpretations of this. One is that appeal rates are low on average: only 8.1% of the litigation stage verdicts are appealed, meaning that parties almost always accept the trial outcome. The other interpretation is that the gender gap in child support awards is relatively small, so parties may not think it worthwhile to pursue a revised award via an appeal.

Although we do not find a gender gap in rates of appeal, we might find heterogeneous results if we explore the relationship of each party with each judge. For instance, given that female judges set lower amounts of child support, our framework predicts defendants will be less likely to appeal in cases assigned to female judges. On the other hand, if plaintiffs know the true value of  $\bar{y}$ , they will be more likely to appeal if the case is assigned to a female judge, as their awards will be further away from what defendants can afford. A look at basic descriptive statistics on the nature of appeals lends credence to these scenarios. Female (male) judges faced 71 (70) trials where their decision was appealed. We find that 73% and 54% of appeals made by defendants belong to cases assigned to male and female judges, respectively. The same numbers for appeals made by plaintiffs are 26% and 47%, respectively, which is consistent with the predictions of our framework.

### 5.2.2 Maximising compliance

When defendants work in the formal sector, compliance with the judicial decision is automatic, as child support is deducted from the defendant’s payroll. This is not the case when defendants work in the informal sector. Defendants with informal income must make monthly transfers to the plaintiff that are, in principle, unenforceable, so judges might be concerned with defendants not complying with their verdicts. The fact that female judges award lower amounts of child support might be because they anticipate lower compliance if the award is higher.

To inspect this, we attempted to exploit an additional source of publicly available information: the registry of child support non-payers (*‘Registro de Deudores Alimentarios Morosos del Poder Judicial’* or REDAM). This registry records defendants who have not paid three or more installments of child support (consecutively or intermittently). In REDAM, we searched for defendants from cases that reached the litigation stage by querying their names but found only 4 individuals, which prevents us from conducting any statistical analysis.

Nonetheless, we cannot rule out that decisions by female and male judges lead to different compliance rates as there are at least two limitations to observing non-compliance. First, our data set might not be sufficiently big. There are 1,738 trials in our randomised sample (registered in Lima in 2017 and 2018). However, only 2,571 non-payers were registered in REDAM from all over the country in 2018. Second, non-compliance might be under-reported

in REDAM, as non-payment is not registered automatically; plaintiffs must submit paperwork and might choose not to take on the burden. Moreover, they might prefer not to take this path because non-compliance with child support carries a three-year incarceration risk.

### 5.3 Gender differences in information assessment

In this subsection, we propose a novel explanation for the gender gap in child support cases. We focus on the 78% of trials where defendants work in the informal sector and their income is non-observable for judges, leaving judges to guess the income upon which to base an award. We think that the main signal judges rely on is the initial claim by the plaintiff. We hypothesize that a gender gap can emerge if female judges rely less on the claim to form beliefs about the non-observable income.

We take three steps. First, we propose a conceptual framework of judicial decision-making and explain how judges' beliefs about non-observable income can be elicited. Second, we describe the methodology to estimate those beliefs. Finally, we relate those estimated beliefs to the claims made by the plaintiffs to see whether there are gender differences in information assessment.

#### 5.3.1 Conceptual Framework

Let us consider judges facing two types of cases, one that has observable income and one that does not: 'formal' ( $F$ ) and 'informal' ( $I$ ). In a formal case  $t \in F$ , a judge  $j$  observes the defendant's income  $y_t$  and awards a monthly percentage deduction of it  $\alpha_{tj} \in (0, 0.6]$  of  $y_t$  to the plaintiff. We assume that awards in formal cases are based on the number of children that are the subject of the claim  $c_t$ , other children the defendant has to support  $a_t$  (not subjects of the claim), and the judge's decision standard  $\mu_j$ . We interpret  $\alpha_{tj}$  as the allocation preferences of judge  $j$  for a given combination of  $c_t$ ,  $a_t$  and  $\mu_j$ . We can write the decision of judge  $j$  in a formal trial  $t \in F$  as:

$$(6) \quad \alpha_{tj} = w(c_t, a_t, \mu_j), \quad \forall t \in F$$

In an informal case  $t \in I$ , a judge  $j$  does not observe  $y_t$  and awards  $A_{tj}$  as a fixed amount of money to be paid monthly by the defendant. To calculate the award, judge  $j$  must first form beliefs  $b_{tj}$  about income  $y_t$  from which a fraction  $\alpha_{tj}$  (allocation preferences) will be deducted. It is worth noting that neither  $b_{tj}$  nor  $\alpha_{tj}$  are observed when  $t \in I$  in our data. We can write the decision-making process of judge  $j$  in an informal trial  $t \in I$  as:

$$(7) \quad A_{tj} = b_{tj}\alpha_{tj} = b_{tj}w(c_t, a_t, \mu_j), \quad \forall t \in I$$

We assume that individual judges will make consistent allocations across cases.<sup>16</sup> Consider

---

<sup>16</sup>It can be argued that informal and formal cases are qualitatively different, in which case our assumption



a single judge facing a formal case  $t = f$  and an informal case  $t = i$ . Only one child is involved and there are no other children to support, so  $n_t = 1$  and  $a_t = 0$  for  $t = f, i$ . The main assumption is that a judge would choose the same fraction of income  $\alpha_{t=f}$  in the formal case  $t = f$  and in the informal case  $t = i$ , if the income were observable. Given this assumption we can elicit the judge’s belief in case  $t = i$  by combining the two awards given in cases  $t = f$  and  $t = i$  as follows:

$$(8) \quad b_{t=i} = \frac{A_{t=i}}{\alpha_{t=f}}$$

Intuitively, this framework implies that revealed allocation preferences in formal cases can be used to infer beliefs about the income of defendants in informal cases. To illustrate, consider a formal and informal case with the same number of children involved and non-involved in the trial. If the award given by a judge in the formal case is 30% of the defendant’s income and it is \$300 in the informal case, we could infer that the judge believes the defendant earns \$1,000 by assuming that the judge would maintain the same allocation preference (30%).

### 5.3.2 Estimating elicited beliefs

Since judges might face formal and informal cases involving different combinations of the number of children involved and non-involved in the trial, we cannot elicit beliefs about income by combining decisions made in formal and informal cases as in the previous example. Instead, we implement our approach in 3 steps as we explain next.

First, we model judges’ allocation preferences using their decisions in formal cases as follows:<sup>17</sup>:

$$(9) \quad \alpha_{tj} = \mu_j + \beta_0 + \sum_{i=2}^{i=4} \beta_i^c \mathbb{1}[c_t = i] + \sum_{i=1}^{i=4} \beta_i^a \mathbb{1}[a_t = i] + \epsilon_{tj}, \quad t \in F$$

Where  $\alpha_{tj}$  is the award given by judge  $j$  in formal case  $t \in F$ ;  $c_t$  and  $a_t$  are the number of children involved and non-involved in the trial  $t \in F$ , respectively. Finally,  $\mu_j$  is the judge fixed-effect. Importantly,  $\hat{\beta}_i^c$  and  $\hat{\beta}_i^a$  measure how judges weigh the number of children involved and non-involved in the trial; while  $\hat{\mu}_j$  captures the judge’s decision standard defined in our conceptual framework.

Second, we calculate how those same judges would have decided on a child support award  $\tilde{\alpha}_{tj}$  (fraction of income to be deducted) in informal cases  $t \in I$  (what we call ‘calibrated’

---

would not hold. However, performing a simple balance test between formal and informal cases, we only find significant differences in perceptions of income levels, the age of the defendant, and whether the defendant is a ‘defaulter’ or not. The rest of the relevant covariates are statistically similar, so we do not believe it is an issue.

<sup>17</sup>Note that this specification is the most flexible as it assumes that the number of children affects decisions non-linearly. In Table 13 in the Appendix, we run as a robustness check an alternative version that instead assumes a linear relationship. Values of the number of children involved in the trial and the number the defendant must additionally support go from 1 to 4 and from 0 to 4 in our data set, respectively.

allocation preferences). By using the estimated coefficients from equation (9), we calibrate the allocation preferences  $\tilde{\alpha}_{tj}$  in informal cases as follows:

$$(10) \quad \tilde{\alpha}_{tj} = \hat{\mu}_j + \hat{\beta}_0 + \sum_{i=2}^{i=4} \hat{\beta}_i^c \mathbb{1}[c_t = i] + \sum_{i=1}^{i=4} \hat{\beta}_i^a \mathbb{1}[a_t = i], \quad t \in I$$

Where  $\tilde{\alpha}_{tj}$  is the calibrated allocation preferences of judge  $j$  in informal case  $t \in I$ ;  $c_t$  and  $a_t$  are the number of children involved and non-involved in the trial in case  $t \in I$ , respectively.  $\hat{\beta}_0$ ,  $\hat{\beta}_i^c$ ,  $\hat{\beta}_i^a$  and  $\hat{\mu}_j$  are the estimates taken from equation (9).

Finally, we estimate the judge's beliefs about the defendant's income  $b_t$  in informal cases  $t \in I$  by combining the calibrated allocation preferences  $\tilde{\alpha}_{tj}$  (fraction of income) and the observed award  $A_{tj}$  (fixed amount of money) in informal cases  $t \in I$  as follows:

$$(11) \quad \hat{b}_{tj} = \frac{A_{tj}}{\tilde{\alpha}_{tj}}, \quad t \in I$$

### 5.3.3 How judges assess information

We examine gender differences in information assessment by testing whether female and male judges rely differently on plaintiffs' claims to form their beliefs about the income of defendants. We use the plaintiff's claim as a signal of the defendant's income for the following reasons. First, the plaintiff's claim must be informative about the defendant's income, as plaintiffs often argue that the amount they ask for child support is more than affordable by defendants.<sup>18</sup> Second, the way the plaintiff's claim is set allows us to study gender differences in information assessment from a causal perspective. As explained in Section 2.1, the claim is set before the randomisation of the case and, therefore, cannot depend on the gender of judges.

To visually inspect the differences in information assessment between female and male judges, in Figure 3 we separately plot judges' estimated beliefs about income against plaintiffs' claims by gender. We see a positive linear relationship between these two variables regardless of gender, showing that judges do indeed rely on the claim to form beliefs. However, the plot shows that reliance is larger for male judges. An increase of one currency unit in the claim is associated with a 0.73 currency unit increase in beliefs about income. For female judges, we continue to observe a positive relation, though the slope coefficient falls to 0.33.

We then test this difference using a regression that exploits the random assignment of cases to judges. The specification is:

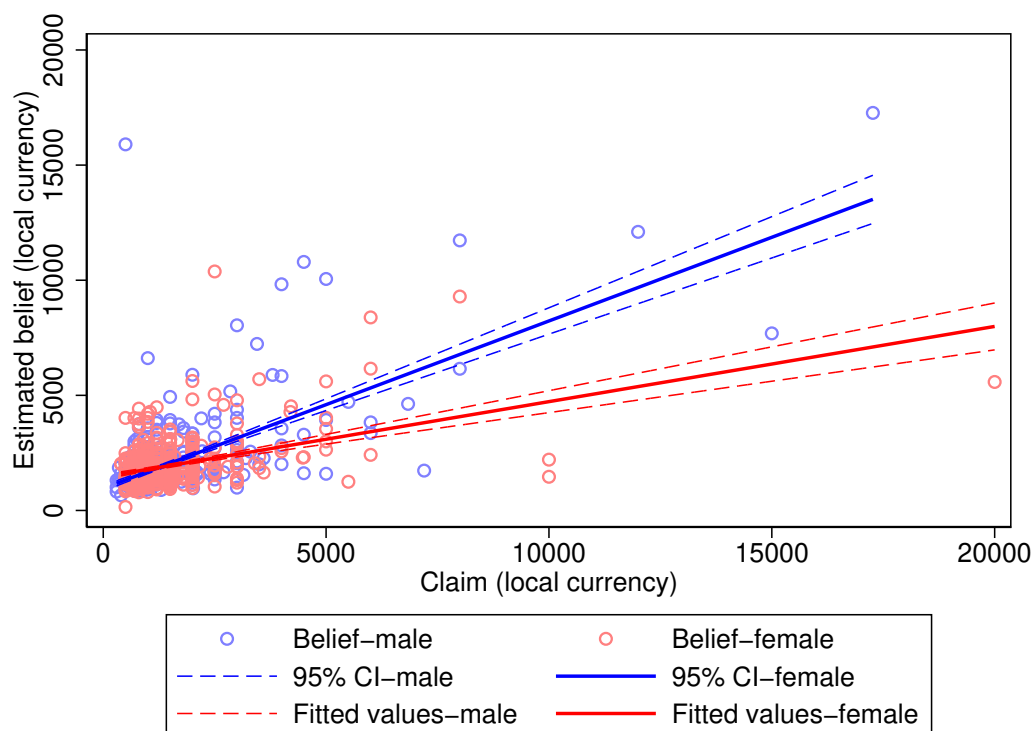
$$(12) \quad z(\hat{b}_{tj}) = \beta_1 + \beta_2 Female_{j(t)} + \beta_3 z(c_t) + \beta_4 Female_{j(t)} \times z(c_t) + \theta_d + \theta_y + \epsilon_{tj}$$

Where  $z(\hat{b}_{tj})$  is the z-score of the belief of judge  $j$  about the income of the defendant in

---

<sup>18</sup>Naturally, judges know that the claim might be a biased signal of the defendant's income. It is certainly in the plaintiff's interest to overestimate the economic status of the defendant to maximize her chances of obtaining a satisfactory result.

Figure 3: Estimated beliefs about income and claim



*Notes:* The figure plots the estimated belief about the defendant’s income (vertical axis) against the claim set by the plaintiff (horizontal axis) in trials where the former is unknown. Blue and red lines represent the prediction from a linear regression of estimated beliefs on claims for male and female judges, respectively. Dashed lines show 95% confidence intervals.

case  $t$  estimated from equation (9),  $z(c_t)$  is the z-score of the claim made by the plaintiff. In addition, we include district  $\theta_d$  and year  $\theta_y$  fixed effects. The main coefficient of interest is  $\beta_4$  which estimates the gender difference in relying on the claim to form beliefs. To rule out that our findings might be driven by outliers, we run the analysis on a sample that removes extreme cases<sup>19</sup> on top of the full sample.

Results are shown in Table 10. Columns (1) and (2) show the estimations based on the full sample, while columns (3) and (4) show the analogous for the restricted sample. For each sample, we show results with and without controlling for the number of children involved and non-involved in the trial. Column (1) shows that an increase in 1 S.D. in the claim is associated with a 0.74 S.D. increase in estimated beliefs. However, when the claim is randomly assigned to a female judge, the weight is reduced by -0.39 S.D. Columns (3) and (4) show that although the magnitudes decrease when we remove outlier cases, the coefficients keep the same sign and remain significant. In Table 14 in the Appendix, we show results under different calibration specifications and restricted samples. Overall, we find strong evidence

<sup>19</sup>We remove trials where estimated beliefs or claims exceed 2 standard deviations

of gender differences in information assessment that are robust to different specifications and samples.

Table 10: Gender differences in information assessment

|                                       | Full sample          |                      | Restricted sample   |                     |
|---------------------------------------|----------------------|----------------------|---------------------|---------------------|
|                                       | (1)                  | (2)                  | (3)                 | (4)                 |
| Female judge                          | 0.049<br>(0.073)     | 0.067<br>(0.071)     | 0.047<br>(0.051)    | 0.058<br>(0.052)    |
| Claim (z-score)                       | 0.740***<br>(0.099)  | 0.748***<br>(0.101)  | 0.371***<br>(0.050) | 0.374***<br>(0.050) |
| Female judge $\times$ Claim (z-score) | -0.399***<br>(0.105) | -0.390***<br>(0.108) | -0.143**<br>(0.069) | -0.124*<br>(0.064)  |
| District FE                           | Yes                  | Yes                  | Yes                 | Yes                 |
| Year FE                               | Yes                  | Yes                  | Yes                 | Yes                 |
| Children (non-linear)                 | No                   | Yes                  | No                  | Yes                 |
| Observations                          | 1,152                | 1,152                | 1,098               | 1,098               |
| N of judges                           | 98                   | 98                   | 97                  | 97                  |
| R2                                    | 0.439                | 0.511                | 0.183               | 0.320               |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of gender differences in information assessment for trials where defendants work in the informal sector. The dependent variable is the estimated judge's belief about the defendant's income (assuming a non-linear relationship between the judge's allocation preferences and the number of children that the defendant has to support). Columns (1) and (2) use all cases. Columns (3) and (4) discard outliers defined as cases where the estimated beliefs (z-score), or the claim (z-score), are higher than 2 S.D or lower than -2 S.D. *Female* judge is an indicator variable for whether the case was assigned to a female judge. As controls, we include the number of children (involved and non-involved in the trial) in a non-linear fashion. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

This result helps to explain our reduced-form results as follows. We find that, for a given claim level, female judges rely on it less to form beliefs about income. According to our framework, guessing or forming beliefs about income is the first and a necessary step to determining an award. Thus, the fact that female judges assess information this way explains why they set lower awards than male judges.

## 6 Conclusions

In this article, we have examined gender differences in judicial decision-making in Peruvian child support cases. By exploiting the random assignment of cases to judges, we find that

female judges typically make smaller awards for child support than their male counterparts in formal and informal cases. Looking at the latter in particular -where we have a local currency measure of the award- this gap represents around 12.2% of the basic market basket value per person and 4.5% of the minimum wage in 2018.

We explore three hypotheses that might explain the gender gap. First, we look at some demographic and socioeconomic characteristics of judges, and at the gender composition of their workplaces, to examine if female and male judges have different views about the norms affecting a plaintiff who is typically female and the sole caregiver of the child, and a defendant who is typically male and the primary income earner. We find the age and job status of judges to be negative and positive predictors of child support awards, respectively, but we do not find any gender differences. Nor do we find that the gender composition of the workplace explains the amounts of child support awarded by judges, nor do we find gender differences in this regard. These results suggest that gender norms are not the main drivers of the differences in child support awarded by female and male judges.

Second, we study whether there are gender differences in how judges might pursue different legal objectives beyond determining the ‘correct’ amount of child support. The legal objectives we consider are reducing the likelihood of an appeal, and maximising compliance with the verdict. We do not find enough evidence to support judges prioritizing these additional legal objectives. However, we cannot discard them *a priori* since the appeal rate in our sample is too low, and we do not have enough data on compliance/non-compliance.

Our main contribution to the literature is our third hypothesis: that the gender gap arises because of differences in information assessment. To test for this, we assume that a judge has the same preferences for child support allocation for formal and informal earners. By estimating this component when the judge makes decisions in formal cases, we are able to calibrate their preferences in informal cases and infer the degree to which the amount of child support they allocate in the latter is influenced by their beliefs about the income of defendants. We find that relative to male judges, female judges infer that the respondent has higher levels of income when they cannot observe it during the trial, explaining why the gender gap in informal cases is smaller than in formal cases. We further provide a possible explanation for this fact: our estimations show that female judges rely less on the signal sent by the plaintiff through her claim. These findings highlight the fact that information asymmetries might play a role in influencing judicial outcomes. For instance, could the lack of information explain racial disparities in the outcomes of criminal cases?

Our findings have vital policy implications. There is evidence that parents transport fewer economic resources after parental separation (Bjorklund and Sundstrom, 2006). For example, since the father has reduced access to the child, he has fewer incentives to provide resources. Further, if the mother remarries, the father has fewer incentives to support his child because part of the transfer spills over to the new husband (Chiappori and Weiss, 2007). Hence,

child support allocation is not a trivial matter, so a discussion about the predictability of the judicial system in these types of cases is necessary, given that verdicts depend so much on variables such as the gender of the judge or the lack of information during the trial. A potential solution to reduce discretion in child support cases could be for judges to rely on benchmarks based on, for instance, the type of respondent's job or the cost of living of the district where the child resides. This is an important issue for further research.

## References

- Arnold, David, Will Dobbie and Crystal S Yang. 2018. "Racial Bias in Bail Decisions." *The Quarterly Journal of Economics* 133(4):1885–1932.
- Ash, Elliott, Daniel L. Chen and Arianna Ornaghi. 2022. "Gender Attitudes in the Judiciary: Evidence from U.S. Circuit Courts." *Working Paper* .
- Bagues, Manuel and Berta Steve-Volart. 2010. "Can Gender Parity Break the Glass Ceiling? Evidence from a Repeated Randomized Experiment." *The Review of Economic Studies* 77(4):1301–1328.
- Bagues, Manuel, Mauro Sylos-Labini and Natalia Zinovyeva. 2017. "Does the Gender Composition of Scientific Committees Matter?" *American Economic Review* 107(4):1207–1238.
- Bicchieri, Cristina. 2017. *Norms in the Wild: How to Diagnose, Measure, and Change Social Norms*. Oxford: Oxford University Press.
- Bjorklund, Anders and Marianne Sundstrom. 2006. "Parental Separation and Children's Educational Attainment: A Siblings Analysis on Swedish Register Data." *Economica* 73(292):605–624.
- Boyd, Christina L. 2016. "Representation on the Courts? The Effects of Trial Judges' Sex and Race." *Political Research Quarterly* 69(4):788–799.
- Boyd, Christina L., Lee Epstein and Andrew D. Martin. 2010. "Untangling the Causal Effects of Sex on Judging." *American Journal of Political Science* 54(2):389–411.
- Bursztyn, Leonardo, Alessandra L. Gonzales and David H. Yanagizawa-Drott. 2020. "Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia." *American Economic Review* 110(10):2997–3029.
- Bursztyn, Leonardo, Alexander W. Cappelen, Bertil Tungodden, Alessandra Voena and David H. Yanagizawa-Drott. 2023. "How are Gender Norms Perceived." *NBER Working Paper 31049* .
- Chiappori, Pierre-André and Yoram Weiss. 2007. "Divorce, Remarriage, and Child Support." *Journal of Labor Economics* 25(1):37–74.
- Cohen, Alma and Crystal S. Yang. 2019. "Judicial Politics and Sentencing Decisions." *American Economic Journal: Economic Policy* 11(1):160–191.
- Collins, Todd and Laura Moyer. 2008. "Gender, Race, and Intersectionality on the Federal Appellate Bench." *Political Research Quarterly* 61(2):219–227.

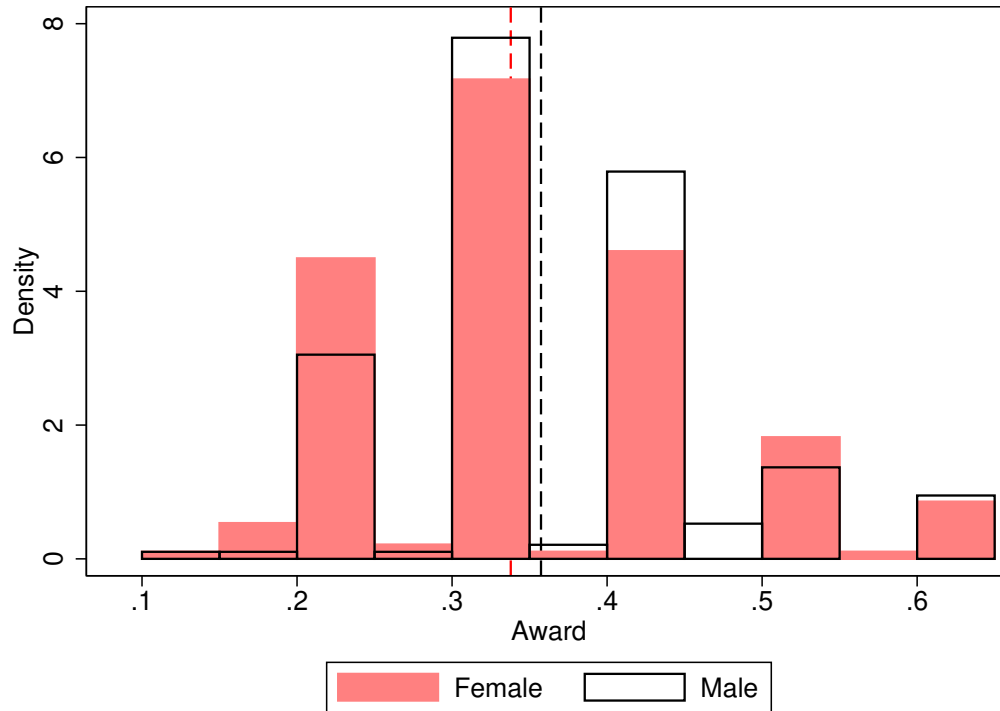
- Coontz, Phyllis. 2000. "Gender and judicial decisions: Do female judges decide cases differently than male judges?" *Gender Issues* 18(4):59–73.
- Derks, Belle, Naomi Ellemers, Colette van Laar and Kim de Groot. 2011. "Do sexist organizational cultures create the Queen Bee?" *British Journal of Social Psychology* 50(3):519–535.
- Farhang, Sean and Gregory Wawro. 2004. "Institutional Dynamics on the U.S. Court of Appeals: Minority Representation Under Panel Decision Making." *The Journal of Law, Economics, and Organization* 20(2):299–330.
- Gill, Rebecca, Michael Kagan and Fatma Marouf. 2015. "Chivalry, Masculinity, and the Importance of Maleness to Judicial Decision Making."
- Gruhl, John, Cassia Spohn and Susan Welch. 1981. "Women as Policymakers: The Case of Trial Judges." *American Journal of Political Science* 25(2):308–322.
- Johnson, Brian. 2014. "Judges on Trial: A Reexamination of Judicial Race and Gender Effects across Modes of Conviction." *Criminal Justice Policy Review* 25(2):159–184.
- Kastellec, Jonathan P. 2013. "Racial Diversity and Judicial Influence on Appellate Courts." *American Journal of Political Science* 57(1):1–277.
- Kiser, Randall L., Martin A. Asher and Blakeley B. McShane. 2008. "Let's Not Make a Deal: An Empirical Study of Decision Making in Unsuccessful Settlement Negotiations." *Journal of Empirical Legal Studies* 5(3):551–591.
- Knepper, Matthew. 2018. "When the Shadow Is the Substance: Judge Gender and the Outcomes of Workplace Sex Discrimination Cases." *Journal of Labor Economics* 36(3):623–664.
- Kuran, Timur. 1995. *Private Truths, Public Lies: The Social Consequences of Preference Falsification*. Cambridge, MA: Harvard University Press.
- Martin, Elaine. 1989. "Differences in Men and Women Judges: Perspectives on Gender." *Journal of Political Science* 17(1).
- Peresie, Jennifer L. 2005. "Female Judges Matter: Gender and Collegial Decisionmaking in the Federal Appellate Courts." *The Yale Law Journal* 114(7):1759–1790.
- Schanzenbach, Max. 2005. "Racial and Sex Disparities in Prison Sentences: The Effect of District-Level Judicial Demographics." *Journal of Legal Studies* 34(1):57–92.
- Steffensmeier, Darrell and Chris Hebert. 1999. "Women and Men Policymakers: Does the Judge's Gender Affect the Sentencing of Criminal Defendants?" *Social Forces* 77(3):57–92.



US Census Bureau. 2022. *America's Families and Living Arrangements: 2022*. Washington, DC.

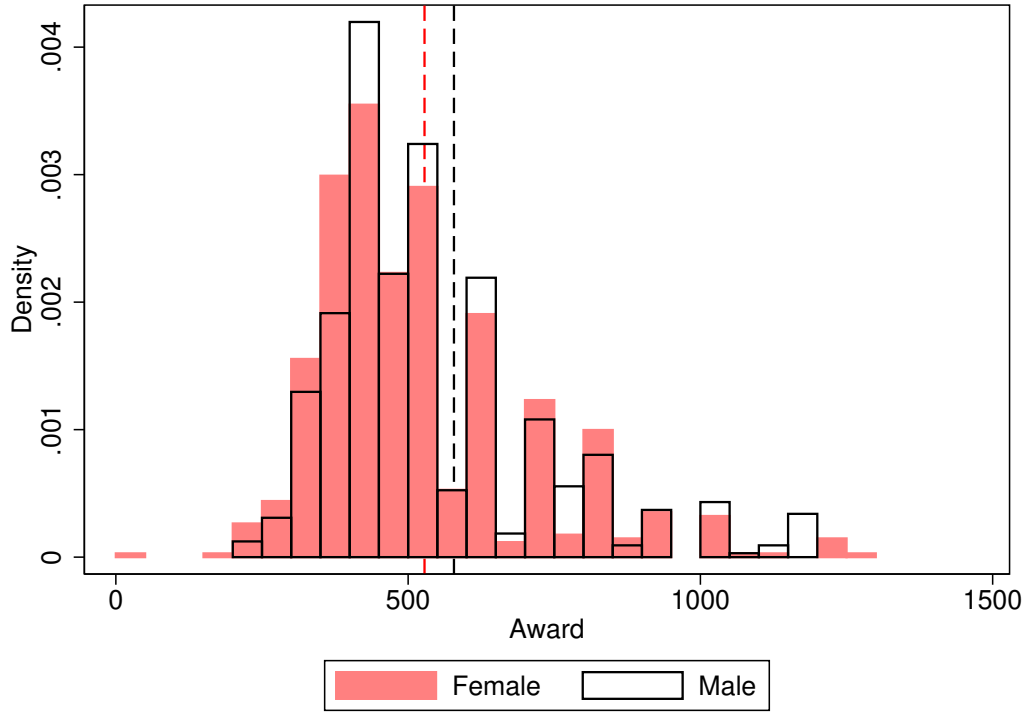
## Appendix

Figure 4: Histogram of awards by judge's gender (formal cases)



*Notes:* The histogram height on the vertical axis is based on frequency of observations, with awards (as a fraction of the respondent's income to be transferred to the petitioner) on the horizontal axis. Black and red vertical lines indicate the award means set by male and female judges, respectively.

Figure 5: Histogram of awards by judge's gender (informal cases)



*Notes:* The histogram height on the vertical axis is based on frequency of observations, with awards (as fixed amounts of money to be transferred by the respondent to the petitioner) on the horizontal axis. Black and red vertical lines indicate the award means set by male and female judges, respectively.

Table 11: Judge’s gender effects on child support awards (all controls)

|                     | Total award (z-score) |                      | Award per child (z-score) |                      |
|---------------------|-----------------------|----------------------|---------------------------|----------------------|
|                     | (1)                   | (2)                  | (3)                       | (4)                  |
| Female judge        | -0.154***<br>(0.046)  | -0.151***<br>(0.046) | -0.207***<br>(0.057)      | -0.190***<br>(0.057) |
| District FE         | Yes                   | Yes                  | Yes                       | Yes                  |
| Year FE             | Yes                   | Yes                  | Yes                       | Yes                  |
| Case controls       | Yes                   | Yes                  | Yes                       | Yes                  |
| Linear function     | Yes                   | No                   | Yes                       | No                   |
| Non-linear function | No                    | Yes                  | No                        | Yes                  |
| Observations        | 1,529                 | 1,529                | 1,529                     | 1,529                |
| N of judges         | 139                   | 139                  | 139                       | 139                  |
| R2                  | 0.484                 | 0.490                | 0.433                     | 0.443                |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect on child support awards of the judge’s gender for all observable characteristics. Columns (1), (2), and (3) use the standardised award as a dependent variable. Columns (4), (5) and (6) use the standardised award per child as a dependent variable. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Case controls* include the number of children involved and non-involved in the trial, the average age of children involved in the trial, dummy variables indicating whether at least one child (involved in the trial) has health issues, whether the case is formal (defendant’s income is observable), whether the defendant was a defaulter, whether the defendant has assets and a standardised estimation of the plaintiff’s claim. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

Table 12: Judge's gender effects on child support awards (informal cases)

|                     | Total award |         |          | Award per child |           |           |
|---------------------|-------------|---------|----------|-----------------|-----------|-----------|
|                     | (1)         | (2)     | (3)      | (4)             | (5)       | (6)       |
| Female judge        | -36.08*     | -39.66* | -42.12** | -46.73***       | -49.21*** | -46.50*** |
|                     | (21.22)     | (20.12) | (19.71)  | (16.92)         | (17.16)   | (17.19)   |
| District FE         | Yes         | Yes     | Yes      | Yes             | Yes       | Yes       |
| Year FE             | Yes         | Yes     | Yes      | Yes             | Yes       | Yes       |
| Case controls       | No          | Yes     | Yes      | No              | Yes       | Yes       |
| Linear function     |             | Yes     | No       |                 | Yes       | No        |
| Non-linear function |             | No      | Yes      |                 | No        | Yes       |
| Observations        | 1,360       | 1,360   | 1,360    | 1,360           | 1,360     | 1,360     |
| N of judges         | 132         | 132     | 132      | 132             | 132       | 132       |
| R2                  | 0.154       | 0.283   | 0.291    | 0.196           | 0.291     | 0.295     |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of the effect on child support awards of the judge's gender in informal cases. Columns (1), (2), and (3) use the standardised award as a dependent variable. Columns (4), (5) and (6) use the standardised award per child as a dependent variable. *Female judge* is an indicator variable for whether the case was assigned to a female judge. *Case controls* include the number of children involved and non-involved in the trial, dummy variables indicating whether at least one child (involved in the trial) has health issues, whether the defendant was a defaulter, and whether the defendant has assets. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.

Table 13: Gender differences in information assessment

|                                       | Full sample          |                      | Restricted sample   |                     |
|---------------------------------------|----------------------|----------------------|---------------------|---------------------|
|                                       | (1)                  | (2)                  | (3)                 | (4)                 |
| Female judge                          | 0.001<br>(0.002)     | -0.002<br>(0.002)    | 0.003<br>(0.003)    | 0.004<br>(0.003)    |
| Claim (z-score)                       | 0.003***<br>(0.005)  | 0.003***<br>(0.005)  | 0.003***<br>(0.005) | 0.003***<br>(0.005) |
| Female judge $\times$ Claim (z-score) | -0.002***<br>(0.001) | -0.002***<br>(0.001) | -0.001*<br>(0.001)  | -0.001*<br>(0.001)  |
| District FE                           | Yes                  | Yes                  | Yes                 | Yes                 |
| Year FE                               | Yes                  | Yes                  | Yes                 | Yes                 |
| Children (linear)                     | No                   | Yes                  | No                  | Yes                 |
| Observations                          | 1,152                | 1,152                | 1,117               | 1,117               |
| N of judges                           | 98                   | 98                   | 97                  | 97                  |
| R2                                    | 0.562                | 0.569                | 0.308               | 0.328               |

*Notes:* \*, \*\*, \*\*\* denote statistical significance at the 0.1, 0.05, and 0.01 levels, respectively. This table presents pooled OLS estimates of gender differences in information assessment for trials where defendants work in the informal sector. The dependent variable is the estimated judge's belief about the defendant's income (assuming a linear relationship between the judge's allocation preferences and the number of children that the defendant has to support). Columns (1) and (2) use all cases. Columns (3) and (4) discard outliers defined as cases where the estimated beliefs (z-score), or the claim (z-score), are higher than 2 S.D or lower than -2 S.D. *Female* judge is an indicator variable for whether the case was assigned to a female judge. As controls, we include the number of children (involved and non-involved in the trial) in a linear fashion. Each regression includes district and year fixed effects. Standard errors in parentheses are clustered at the court and judge levels.