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Taste-Based Gender Favouritism in High Stakes Decisions: Evidence from The Price Is Right

Taste-Based Gender Favouritism in High Stakes Decisions

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Abstract: Gender discrimination is present across various fields, but identifying the underlying mechanism is challenging. We demonstrate own-gender favouritism in a field setting that allows for clean identification of tastes versus beliefs: the *One Bid* game on the TV show *The Price Is Right*. Players must guess an item's value without exceeding it, leaving the last bidder with a dominant 'cutoff' strategy of overbidding another player by $1. We show that last bidders are significantly more likely to cut off opposite-gender opponents. This behaviour is explained by own-gender favouritism rather than beliefs that cutting off opposite-gender opponents is more profitable.

Keywords: Gender Favouritism, Taste-Based Discrimination, Game Show, Stereotypes

Classification: D7; J3; J7

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1 Introduction

Are we more inclined to share resources with members of our own gender? The answer to this question lies at the heart of important social issues and could help explain labour market disparities such as the gender pay gap and under-representation of women in the sciences. Gender favouritism has been observed, for example, in medicine, where evidence suggests that physicians are more likely to refer patients to same-sex specialists (Zeltzer, 2020), and venture capital, where investors seem more inclined to fund same-sex entrepreneurs (Ewens and Townsend, 2020; Gafni *et al.*, 2020). Because these professions are male-dominated, gender favouritism provides a plausible explanation for observed disparities in earnings.

It is notoriously difficult, however, to disentangle favouritism towards one's own gender from beliefs that genders differ in terms of skill (for thorough reviews, see Guryan and Charles, 2013; Bertrand and Duflo, 2017; Blau and Kahn, 2017; Neumark, 2018; Coffman *et al.*, 2021). Perhaps physicians believe that same-sex specialists are more competent, or venture capitalists believe that same-sex entrepreneurs have better ideas. Bohren *et al.* (2019a) argue that when people might harbour biased beliefs, it becomes nearly impossible to convincingly identify taste-based favouritism towards a specific group, because virtually any seemingly prejudiced decision could be explained by recourse to a set of potentially incorrect beliefs.

We identify a preference for costly gender favouritism in a unique field setting that provides remarkably clean differentiation between preferences and beliefs: the *One Bid* game on the American TV game show *The Price Is Right.* In the *One Bid* game, four contestants sequentially and publicly guess the retail price of an item with the goal of bidding closest to the item's actual price without exceeding it. In this game, the fourth bidder has a weakly dominant strategy of overbidding another opponent by exactly \$1 (or bid \$1 if they believe everyone else has already overbid the price). We refer to these \$1 overbids as "cutoffs" because they effectively cut off any chance of winning for the opponent whose bid they are exceeding by \$1. Despite the strategic advantage of cutoffs, however, many fourth bidders do not make such cutoff bids. We capitalise on this variation by analysing whether cutoff bids can be predicted by the gender match between the fourth bidder and the target opponent.

To see why the *One Bid* game allows us to separate beliefs and tastes, consider a fourth bidder who bids \$650 after opponents have bid \$400, \$600, and \$800. By bidding \$650, the fourth bidder implicitly reveals their belief that the bid of \$600 was the leading bid (closest to the actual price without exceeding it). The fourth bidder could have increased their winning chance by bidding \$601; \$601 would win in any situation \$650 wins and some in which it doesn't. But the \$601 bid leaves the second bidder almost no chance to win. Thus, a decision not to cut, as in this example, can be construed as a favour to the contestant being overbid. One can therefore conceptualise fourth bidders' decisions as a two-step process: First, they identify and reveal who they believe to be leading by overbidding that person., Then, they reveal whether they have a taste for cutting that person off. The logic of bidding \$601 is independent of the characteristics of the person who bid \$600, and holds even if the fourth bidder's belief turns out to be incorrect.

We investigate whether fourth bidders are more inclined to cut off perceived leading bidders of the opposite gender. In 11,016 *One Bid* games between 1972 and 2021, we find that contestants are 4.5 to 4.9 percentage points more likely to cut off perceived leading bids when they are issued by an opposite-gender opponent. Compared to the overall cutoff rate of 48 percent, the estimated effect size translates into a 10 percent increase in the likelihood of cutting off when the pereceived leader is opposite-gender. Same-gender opponents are thus treated preferentially, which is noteworthy because it is costly to the fourth bidder and beneficial to same-gender opponents. Not cutting off an opponent can potentially cost fourth bidders thousands of dollars in prizes.

We further investigate whether an opponent's gender biases the fourth bidder's perceptions of who is in the lead. We find no compelling evidence of inappropriate stereotyping in our environment: fourth bidders are equally likely to identify the correct leading bid whether it is made by a same-gender or an opposite gender opponent.

The *One Bid* game is an ideal test bed for studying gender favouritism because it combines some of the appealing characteristics of both the lab and the field.[1] Like many field settings, contestants face strong incentives to make optimal decisions. *One Bid* winners get the opportunity to win tens of thousands of dollars by gaining the right to play in subsequent tasks. Moreover, *One Bid* is watched by a live studio audience and millions of viewers at home, and contestants presumably do not want to appear sexist. But like many experimental settings, *One Bid* also has elements of random assignment. The grouping of contestants and the bidding orders within the groups are plausibly exogenous with respect to gender. Players do not get to choose their starting position or opponents. In field settings such as the labour market, endogenously different choices by women and men, make the identification of gender bias more challenging (Noonan *et al.*, 2005; Bertrand *et al.*, 2010).

[1]The desirable combination of field and lab features make TV game shows an often-used setting in economic research. Examples are the study of competitiveness (Hogarth *et al.*, 2012; Buser *et al.*, 2023), risky choice (Gertner, 1993; Metrick, 1995; Post *et al.*, 2008), strategic reasoning (Bennett and Hickman, 1993; Berk *et al.*, 1996; Tenorio and Cason, 2002; Klein Teeselink *et al.*, 2023), bargaining (van Dolder *et al.*, 2015), discrimination (Levitt, 2004; Antonovics *et al.*, 2005), and cooperation (List, 2006; Oberholzer-Gee *et al.*, 2010; van den Assem *et al.*, 2012; Turmunkh *et al.*, 2019).

Critics might argue that game show behaviour has limited external validity. But the fact that participants face substantial incentives to behave impartially with respect to gender suggests that such biases are present and powerful. Because the setting involves quick decisions that allow contestants little time to deliberate on their choices or overcome their initial impulses, we likely observe favouritism of an implicit nature (Bertrand *et al.*, 2005; Price and Wolfers, 2010; Reuben *et al.*, 2014). Our results therefore apply most straightforwardly to settings that involve similarly fast-paced decisions such as stop-and-frisk, granting parole, and sports refereeing, as well as discretionary favours such as allowing passengers to board a bus without a travel card (Mujcic and Frijters, 2021).

More generally, just as final bidders in our environment possess advantages that allow them to share or deny expected prize winnings, evaluators in employment contexts make judgments of who is competent and face choices of whom to promote, whose proposal to support, or whose contributions deserve first authorship for an academic paper. If the tendency to grant favours towards one's own gender were to manifest in the labour market, they would contribute to problems like gender-based pay inequity and gender under-representation in certain fields.

Our results relate to multiple literatures. Convincingly demonstrating taste-based favouritism in a field setting fills a gap in the empirical discrimination literature. Ample evidence suggests gender differences in market outcomes. Across several occupations, women are paid less than men, and only a very small portion can be traced to differences in human capital (Blau and Kahn, 2017). Gender favouritism, even when symmetric between males and females, may explain part of these disparities in environments where decision makers are predominantly male. Examples are car dealerships (Ayres and Siegelman, 1995), doctor's offices (Zeltzer, 2020), and markets for venture capital (Ewens and Townsend, 2020; Gafni *et al.*, 2020). However, none of these settings allows to fully disentangle belief-based and preference-based accounts. Although experimental studies have affirmed the importance of statistical demonstration (List, 2004a; Castillo and Petrie, 2010) and biased beliefs (Fershtman and Gneezy, 2001; Mobius and Rosenblat, 2006; Bohren *et al.*, 2019b), clear evidence of taste-based discrimination has been more elusive, particularly in field contexts (see Neumark (2018) for a review). Within the rubric of taste-based discrimination, one may wonder whether there is a customer-based (the audience) or employer-based (the producers of the show) influence on behaviour in our setting. It should be noted that the producers of the show provide players with strong financial incentives to avoid costly own-gender favouritism, potentially responding to audience demand. Thus, any taste for discrimination is likely on the part of contestants.

We further contribute to a large literature on stereotypes (Hilton and von Hippel, 1996; Bordalo *et al.*, 2016, 2019). Stereotypes have been shown to play an important role, for example, in bail decisions (Arnold *et al.*, 2018) and returns to human capital (Jensen, 2010). The absence of inaccurate stereotyping in our data is surprising, although Knowles *et al.* (2001) also find no evidence of stereotyping in motor vehicle searches after controlling the actual rate of offenses.

2 Background on the *One Bid* Game on *The Price Is Right*

At the start of each Price Is Right episode, four audience members are called from the audience to participate in the first round of the *One Bid*. The pool of contestants is chosen prior to the recording of the episode from among the ticket holders based on 20-second interviews that assess energy and enthusiasm levels. Once selected, the contestants line up in the order in which they are called from left to right on the screen. An "item up for bids" is presented with a brief description, and the contestants bid sequentially, from left to right, on the item's retail price, with all contestants aware of the value of previous bids. The contestant who bids closest to the item's actual retail price without exceeding it wins the prize and moves on to play other games for larger prizes. If all bids exceed the actual price, contestants bid again on the same item in the same order.[2] An episode contains six rounds of the 'One Bid' game.

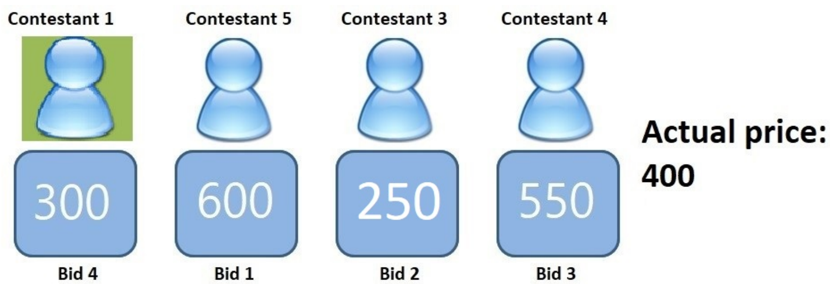
Figure 1 presents a schematic overview of the *One Bid* game. The top panel shows a hypothetical scenario where contestants bid $800, $400, $600, and $601, respectively. After all bids are placed, the item's actual retail price, $475 in this example, is revealed. The second bidder wins in this example because $400 comes closest to $475 and does not exceed it. In the next round of the game (bottom panel of Figure 1), the winner of the first round is replaced by a new audience member. The new contestant bids first in the next game, with the bidding order again continuing from left to right.

[2]When all contestants overbid, we only consider the first session in that round.

Figure 1: Schematic overview One Bid game

(a) Round 1

(b) Round 2



Notes: The figure visualises the *One Bid* game. The top panel shows a hypothetical first round, and the bottom panel shows a hypothetical second round. The contestants are shown from left to right. Contestant numbers are above the icons and the bidding order is below the squares. The actual price is the retail value of the item up for bids. The contestant whose bid is closest to the actual price without exceeding it wins the game. The winner of each round is surrounded by a green square. In Round 1, bidder two wins and is replaced by a new bidder in Round 2, who then makes the first bid.

Self-interested fourth bidders have a weakly dominant strategy to make a cutoff bid that is either \$1, or \$1 above another contestant.[3] Indeed, the fourth bidder in Panel B could only improve their chances, and never diminish them, by lowering their bid from \$300 to \$251. This logic does not extend to second and third bidders, because issuing cutoff bids makes it

[3]For the remainder of this section, we exclusively focus on situations in which the fourth bidder bids above at least one other contestant.

more attractive for subsequent bidders to cut them off. While strategically advantageous to the fourth bidder, cutoff bids (e.g. $251) also leave the target of the cutoff with no chance to win except in the rare instance that their bid exactly equals the price of the item up for bids. Thus, a contestant with social preferences may ignore the selfishly dominant strategy and choose not to cut off other contestants.[4]

Note that when a fourth bidder places their bid above another contestant, they implicitly reveal their belief that the other contestant had made the leading bid. This logic holds for both cutoff bids and non-cutoff bids. In the top panel of Figure 1, the fourth bidder places their bid directly above the third bidder, revealing their belief that the third bidder was in the lead. The fourth bidder in the bottom panel places their bid above the second bidder, and thus reveals their belief that the second bidder was in the lead. Because cutoffs are always optimal conditional on bidding above another player, the *One Bid* game allows us to separately observe beliefs (who does the fourth bidder overbid) and social preferences towards that person (does the fourth bidder overbid them by $1 or more than $1).

Despite the game's high stakes, decades of television exposure, and the time and effort associated with getting into the contestant pool, a large proportion of fourth bidders have historically made weakly dominated bids (Bennett and Hickman, 1993; Berk *et al.*, 1996; Healy and Noussair, 2004). While prior work has interpreted dominated bids as reflecting bounded rationality, we consider the social aspects of contestants' decisions by examining a highly salient characteristic of other contestants—gender—that might make fourth bidders

[4] One may be concerned that fourth bidders refrain from using cutoffs out of fear of later retaliation. This is empirically implausible because only 6% of identified leading bidders have issued earlier cutoff bids, and Berk *et al.* (1996) shows that cutoffs do not lead to retaliation in later rounds. Further, direct retaliation is often impossible. If a fourth bidder cuts off the third bidder (third bidders are the most commonly cut off) and neither wins, it is impossible for the contestant that bid third to end up bidding after the contestant that bid fourth in any later round.

more or less likely to issue a cutoff bid. Our approach does not necessarily assume away bounded rationality, but instead makes the more modest assumption that players' rationality does not differ systematically based on their opponents' gender.[5] Some fourth bids probably reflect strategic errors, but that necessarily means that any effects of gender on cutoffs found in the aggregate must be even stronger amongst those players who do understand the strategy.

3 Data

We obtained data from *The Price Is Right Episode Guide*, a fan-edited forum that maintains detailed recaps of *The Price Is Right* episodes. The forum itself serves as a quality check on the data because attentive forum members identify and correct mistakes. To verify the quality of the data, we compared several episode recaps to online episode recordings on YouTube, and found no inaccuracies in the forum data.

We scraped *One Bid* data for all available episodes on June 15th, 2021. For each *One Bid* round, we obtained the names and bids of all four contestants, as well as the retail price of the item up for bids. For each episode, we obtained the date on which it aired and the total amount of money won. We consider all forum pages that match the format of the majority of pages, because data for divergent formats could not be scraped straightforwardly. We exclude any rounds in which bidding data is either missing or logically incorrect. We manually determine the winner of each round by comparing the observed bids to the actual price, and check the validity of our data by examining whether the winner's name does not return the next round. We restrict our main analyses to fourth bidders because the first

[5] Table A5, Panel B provides supporting evidence for this assumption.

three bidders do not have a clear-cut optimal strategy.[6] Our final data consists of 15,830 *One Bid* games across 2,840 episodes.

In our main analysis, we focus on the subset of 11,016 *One Bid* rounds in which the fourth bidder overbids at least one other contestant. For this subset of observations, overbidding the contestant with the next lowest bid by $1 is the weakly dominant strategy. For some ancillary analyses and robustness checks, we impose different sample restrictions which are summarised in Table A2 in the Appendix.

We derive each contestant's gender from their first name using the R package "gender" (Mullen, 2020). This package attempts to infer a contestant's gender based on name frequencies in the U.S. Social Security Administration baby name data. The package attributes a name to a particular gender if the fraction of male/female newborns with that name exceeded 50% between 1932 and 2012. This method allows us to assign the most likely gender to 96% of all contestants.[7] This method likely incorrectly labels some contestants (this noise works against finding an effect of genders on cutoffs), but it allows our data to be independently reproduced and verified.

One limitation of our data is that it is only comprised of names and bids. Gender is the most reliably recovered piece of demographic information, while race, age, and other potentially relevant characteristics are more difficult to infer. Thus, we cannot be sure if the tendency to cut off bidders of the opposite gender is shared by all contestants equally or is only driven by a sub-group (e.g., young white contestants). For example, List (2004b)

[6] Cutting off is not optimal for the second and third bidders because it allows the fourth bidder to, in turn, cut them off, which essentially cuts off two out of three opponents. If a second or third bidder has cut off the correct target, they make themselves an especially attractive cutoff target.

[7] Section 5 examines the robustness of our results to imposing a stricter threshold than 50%. All conclusions remain intact when we impose thresholds of 90% or higher to determine someone's gender.

showed that young men act significantly more selfishly than young women, but that gender differences decrease with age.

Table A4 in the Appendix presents summary statistics separated by the gender of the fourth bidder. For both male and female fourth bidders, the mean retail price of the items on display, converted to 2015 dollars, is approximately $1,500. The winner of the *One Bid* game can expect to take home around $12,000. The first three bidders are more than 50% female, independent of the fourth bidder's gender. Yet, males face relatively many first and third bidders who are female.[8] Male and female fourth bidders win 43.7% and 45.6% of *One Bid* rounds, respectively.

Male fourth bidders are less likely to make weakly dominated bids. This gender difference results from both a stronger proclivity to cut off the opponents they overbid and to place more $1 bids when they underbid all contestants. Conditional on cutting off another opponent, both male and female fourth bidders mostly cut off third bidders. This is sensible because third bidders are more likely to be correct after conditioning their bids on the first two bids. Fourth bidders who use the optimal strategy win 47% of *One Bid* rounds, whereas those who do not only win 30% of rounds.

Figure A1 shows the evolution of the cutoff rate over time. Between 1970 and 1990, the cutoff rate steadily increased. Since 1990, the rate has remained roughly stable around 50%. The evolution of cutoff rates is consistent with the notion that there are two reasons to abstain from cutting: not knowing the optimal strategy, and social preferences. While the former may be expected to decrease over time, the latter should not. Hence, the cutoff rate should plausibly converge to a stable level below 100%.

[8] Our identification does not rely on similar compositions of bidders 1 to 3, because we consider the fraction of cutoffs conditional on perceiving a particular gender to be in the lead.

To get a general sense of gender differences in bidding performance, it is useful to analyse the behaviour of the first bidder.[9] Figure A2 shows the quality of bids by male and female first bidders. We measure bidding quality by the difference between the bid and the target price (Panel A) and the fraction of bids that does not exceed the target (Panel B). Males and females are remarkably similar in their bidding performance—both the average distance to the target price and the likelihood of not overbidding display little to no gender differences. Moreover, it is important to stress that our identification does not rely on equal performance (or beliefs about equal performance) since we focus on cutoff decisions conditional on beliefs.

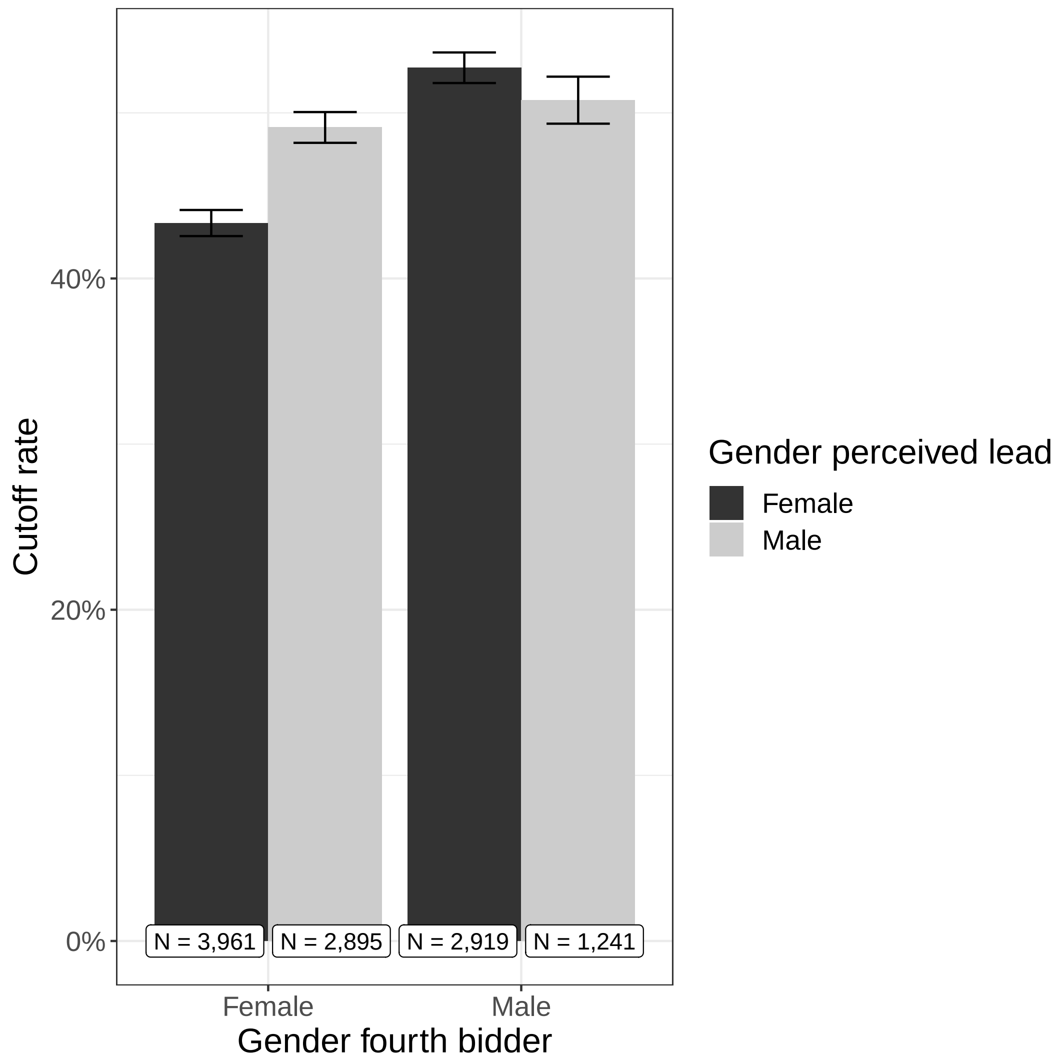
4 Results

4.1 Taste-Based Gender Favouritism

We first explore gender favouritism in cutoff decisions among fourth bidders who overbid at least one opponent. Figure 2 shows the rate at which male and female fourth bidders cut off perceived leaders of the same and opposite gender. Overall, males have a higher cutoff propensity than females (52% vs. 46%). Both genders also exhibit favouritism towards members of their own gender. When females overbid a male contestant, they use the cutoff strategy in 49% of rounds, vs. 43% when they overbid a female contestant. Similarly, males cut off 53% of female perceived leaders and 51% of male perceived leaders. By considering the *proportion* of cutoffs relative to the frequency that a particular gender is perceived to be leading, the current analysis uncovers gender favouritism independent of contestants' beliefs (correct or incorrect).

[9] Bidders two to four are likely anchored by this first bid. At the same time, however, the first bidder might bid strategically in anticipation of the behaviour of subsequent bidders.

Figure 2: Cutting off perceived lead



Notes: The figure shows the cutoff rate of male and female fourth bidders depending on the gender of the perceived leader. The vertical axis depicts the cutoff rate, which is the fraction of fourth bidders who overbid the perceived leader by $1. Error bars represent 95% confidence intervals.

To formally explore gender favouritism in cutoff decisions, we estimate a linear probability model in which the likelihood of a cutoff is regressed on the gender of the fourth bidder and the gender match between the perceived leader and the fourth bidder.[10] We additionally control for the bidding round number (between 1 and 6), the gender composition of the first three bidders, the actual price of the item up for bids, and the number of cutoffs in the current episode prior to the current bidding decision.

Table 1, Columns 1 to 5 show the estimation results. We find robust evidence of an own-gender bias in cutoff decisions. Across specifications, fourth bidders are 4.5 to 4.9 percentage points less likely to cut off the perceived leader when that person is of the same gender. These effects are economically and statistically significant (all $p < 0.001$). We additionally show that women are generally less inclined to cut off the perceived leader than men: their overall cutoff rate is 4.9 to 5.2 percentage points lower. It is worth reiterating that the gender bias we observe here cannot be explained by statistical discrimination or faulty beliefs, because once a fourth bidder has identified a particular contestant to be in the lead, cutoffs are the weakly dominant strategy. This conclusion is independent of the target opponent's characteristics, including skill or gender.

Our results indicate that facing same-gender opponents is costly for fourth bidders because they induce fewer cutoffs, which reduces the fourth bidder's chance of winning. To quantify the cost of such favours, we calculate the amount of money fourth bidders forego in expectation by not cutting someone off. The expected loss increases as the episode progresses, because fourth bidders who lose in earlier rounds still get multiple chances to win the *One Bid* game. Taking into account the chance of winning one of the next *One Bid* rounds after losing the current round, non-cutting fourth bidders would gain between $702 (round 1) and $2,480 (round 6) in expectation from cutting off the perceived leader. For those

[10] All conclusions remain the same when we estimate a logit model instead.

Table 1: Likelihood of cutting off perceived lead based on gender match

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Male	0.051***	0.051***	0.052***	0.051***	0.049***	0.046***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.015)
Gender match	−0.045***	−0.049***	−0.047***	−0.047***	−0.045***	−0.047***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.014)
Target value				−0.00002***	−0.00002**	−0.00002**
				(0.00001)	(0.00001)	(0.00001)
Prior cutoffs					0.052***	0.052***
					(0.005)	(0.005)
Male x Gender match						0.006
						(0.024)
Round fixed effects	No	Yes	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes	Yes
Observations	11,016	11,016	10,133	10,133	10,133	10,133
Adjusted R^2	0.005	0.019	0.021	0.022	0.033	0.033

Notes: The table reports the estimated effect of gender match between the fourth bidder and the perceived leader on the probability of cutting off. *Male* is a dummy variable that takes the value of 1 if the fourth bidder is female. *Gender match* is an indicator variable that takes the value of 1 if the perceived leader is of the same gender as the fourth bidder. *Actual price* is the retail price of the item up for bids. *Prior cutoffs* are the number of cutoff bids in the current episode prior to the current bid. Standard errors are in parentheses. Asterisks denote significance at the 0.01 (***), 0.05 (**), and 0.1 (*) level. Error bars depict standard errors around the cutoff rate.

who correctly identify the leader, these values are $919 (round 1) and $3,247 (round 6).[11] Gender favouritism is insensitive to the size of the stakes in One Bid: when we examine the interaction between the target price and gender match, the interaction term is statistically insignificant (see Table A3 in the Appendix).[12]

In our next step, we investigate whether the extent of gender favouritism differs between males and females. To do so, we consider the same model as before, and add an interaction term between *Gender match* and *Male*. This variable measures whether males and females

[11]To calculate the expected loss, we first consider the difference in the likelihood of winning the *One Bid* round between fourth bidders who issue cutoff bids and those who do not. Then, we consider the observed probability of winning one of the next rounds if fourth bidders lose the current round. We assume these probabilities to be the same between both types of bidders. These probabilities jointly determine each strategy's overall probability of winning this or any future round of the *One Bid* game. The product of the overall win probability and the expected prize money yields the expected value of each strategy. The expected loss is then calculated as the difference in expected value between cutting and not cutting.

[12]One potential reason for the absence of a stake effect is that decisions in the *One Bid* game are made within a matter of seconds, such that gender favouritism likely reflects implicit judgments rather than explicit calculations.

have different inclinations to avoid cutting off same-gender individuals. The results in column 6 of Table 1 show no compelling evidence for a gender difference in own-gender favouritism: the interaction term between *Male* and *Gender match* is insignificant.

The Appendix shows the results and detailed description of several robustness checks, which we briefly outline here. First, our results cannot be explained by male/female perceived leaders bidding more accurately on stereotypically male/female gendered items. Independent coders hired on the mTurk platform categorised all items according to whether they believe males or females (or neither) are more likely to know the price of that item. For both male and female items, we observe own-gender favouritism, suggesting that both genders display favouritism for both male and female items. Further, when controlling for the item's 'gender', the results are similar to our main findings.

Second, our results are not explained by differences in strategic sophistication between those who identify a same-gender lead vs. a different gender lead. Contestants who overbid an opposite-gender opponent do not accumulate more prize money in the subsequent round of strategic games, and the pattern of own-gender favouritism also holds for the subset of rounds in which fourth bidders correctly overbid the leading bidder.

Third, we document a similar degree of own-gender favouritism only using each contestant's first appearance in the *One Bid* game. This suggests that our results do not emerge from fourth bidders who lose and become fourth bidders again later that episode. Moreover, our main results hold even when we only consider the first *One Bid* round of each episode, suggesting that selection effects do not drive our results.

Fourth, in our most restrictive specification, we show that our results are not explained by unobserved factors at the individual level. Table 2 presents an analysis that includes

Table 2: Likelihood of cutting off based on gender match, individual fixed effects

	Model 1	Model 2	Model 3	Model 4	Model 5
Gender match	-0.040^{*}	-0.046^{**}	-0.041^{*}	-0.041^{*}	-0.045^{**}
	(0.021)	(0.021)	(0.022)	(0.022)	(0.021)
Target value				-0.00003^{**}	-0.00002
				(0.00001)	(0.00001)
Prior cutoffs					-0.238^{***}
					(0.015)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	3,980	3,980	3,683	3,683	3,683
Adjusted R^2	0.234	0.270	0.266	0.268	0.352

Notes: The table reports the estimated effect of a gender match between the fourth bidder and the perceived leader, controlling for individual fixed effects. All definitions are as in Table 1.

individual fixed effects. Despite the drastic sample size reduction and the large number of fixed effects, the results are qualitatively and quantitatively similar to our main results.

Fifth, we show that the effect is stable over time. Although the gender composition of *One Bid* contestants has changed over time, the degree of own-gender favouritism has remained largely constant. Last, our results are robust to using looser definitions of cutoff bids, or stricter thresholds for inferring someone's gender from their name.

In addition, the Appendix shows an analysis of $1 bids, which is also suggestive of gender favouritism by fourth bidders.

4.2 Belief-Based Gender Stereotypes

In this section, we examine gender biases in fourth bidders' beliefs about the skill of their competitors. Mirroring our previous analysis, the fact that we separately observe beliefs (who is perceived to be leading) and preferences (whether to cut off the perceived leader) allows us to examine beliefs about skill without the potentially obscuring influence of preferences towards one's own gender. Answering the question whether contestants hold incorrect beliefs about the likelihood that males and females are leading allows us to investigate gender stereotypes in skill. In contrast to many other settings such as sports refereeing and criminal sentencing, we know whether contestants are making correct decisions (does a fourth bidder overbid the person who is actually leading), which allows for an unusually clean test of the correctness of beliefs. Additionally, while earlier approaches could not identify *which* group holds incorrect beliefs, our setting allows us to examine the accuracy of each individual contestant.

To test belief stereotypes, we consider 10,991 rounds in which at least one of the first three contestants does not overbid (such that there exists a leading candidate), and in which the fourth bidder does not bid lower than all previous contestants (such that the fourth bidder reveals their perceived lead). For this subset of data, we estimate the likelihood that the fourth bidder correctly identifies the leading contestant based on the gender match between the fourth bidder and leading bidder. To control for the difficulty of identifying the leading bidder, we add *Distance lead to actual price* as an additional control variable. This variable measures the difference between the bid of the leading contestant and the target value.

Table 3 shows the results. We find no evidence that fourth bidders are more likely to identify the correct lead if that person is of the same gender. The *Gender match* coefficient is statistically insignificant across specifications (all $p > 0.159$). Furthermore, males and females are also generally equally likely to correctly identify the person with the best preceding bid. Hence, we conclude that neither males nor females appear to have (incorrect) stereotypes about one gender being more skilled than the other.

Table 3: Likelihood of correctly identifying the lead based on gender match

	Model 1	Model 2	Model 3	Model 4	Model 5
Male	0.001	0.0003	0.002	−0.001	−0.002
	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)
Gender match	−0.014	−0.015	−0.014	−0.012	−0.012
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Distance lead to actual price	0.0001***	0.0001***	0.0001***	0.0002***	0.0002***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Actual price				−0.00004***	−0.00004***
				(0.00001)	(0.00001)
Prior cutoffs					0.025***
					(0.005)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	10,991	10,991	10,133	10,133	10,133
Adjusted R^2	0.015	0.015	0.014	0.016	0.019

Notes: The table reports the estimated effect of gender match between the fourth bidder and the leading bidder on the probability of identifying the correct leading bid. *Distance lead to actual price* is the difference between the leading bidder's bid and the actual price value as a fraction of the actual price. All other definitions are as in Table 1.

The current analysis also addresses the concern that fourth bidders will tend to issue cut off bids more often when they are unsure about the item price. In those situations, they may impute that their same-gender opponents are also unsure, and thus selectively target opposite-gender contestants who supposedly have a better idea of the price. If this were the case, however, we would also expect to find a cross-gender pattern in selection (whom to overbid), which we do not.

Taken together, our analyses provide clear evidence that cutting decisions in the *One Bid* game are driven by gender favouritism, since both genders are more likely to cut off perceived leaders of the opposite gender. We find no compelling evidence, however, that contestants' beliefs follow gender stereotypes about skill.

5 Conclusion and Discussion

Field evidence of gender discrimination has been demonstrated in a variety of contexts, but linking discrimination to tastes has proven notoriously difficult (Neumark, 2018; Coffman *et al.*, 2021). To fill this gap, we turn to the *One Bid* game on the TV game show *The Price Is Right*. This game provides a particularly attractive setting to study taste-basted gender discrimination, because it allows us to separately observe beliefs and preferences. In virtually all previously studied settings, behaviour that appears to result from taste-based discrimination can alternatively be explained by some set of potentially incorrect beliefs (Bohren *et al.*, 2019a).

Analyses of more than eleven thousand *One Bid* rounds show that both male and female contestants display favouritism towards their own gender. Fourth bidders are more likely to cut off the person perceived to be in the lead if that person is of the opposite gender rather than the same gender. Cutoffs are the optimal strategy no matter the gender of the opponent, and any reluctance to cut off same-gender opponents can be considered as a favour towards members of their own gender. Thus, our data suggest that people may hold strong discriminatory tastes that can outweigh substantial monetary stakes for being impartial. Additionally, and contrary to many prior studies, our data show no evidence for gender stereotypes in beliefs, neither among males nor females.

Our finding of taste-based favouritism is in line with psychological literature on out-group biases (See Brewer, 1979) and prior studies of orchestra auditions (Goldin and Rouse, 2000), venture capital funding decisions (Ewens and Townsend, 2020; Gafni *et al.*, 2020), and physician referrals (Zeltzer, 2020). However, in each of these previously studied field settings, seemingly bigoted decisions can be rationalised by some set of potentially incorrect beliefs about skill differences between males and females. One notable exception is Bohren *et al.* (2019b), who use the evolution of beliefs over time to distinguish between taste-based discrimination, accurate statistical discrimination, and inaccurate statistical discrimination. Yet, in contrast to our taste-based account, their evidence points towards biased beliefs as the main source of discrimination. Our study is among the first to show taste-based discrimination without the obscuring influence of beliefs, correct or incorrect.

Although *The Price Is Right* provides several attractive features to study taste-based discrimination, one may be concerned about the external validity of our results. Even though attendees are relatively diverse in terms of age, gender, ethnicity, and education levels compared to most other settings, they self-select into attending the show and therefore might not accurately reflect the general population. Nevertheless, unless one argues that people with discriminatory tastes are over-sampled as contestants, this issue does not affect our conclusions. Moreover, the fact that contestants know that their decisions will be scrutinised by millions of viewers should mitigate any tendency to engage in bigoted behaviour. That we still find evidence of taste-based discrimination under these conditions suggests that such biases are present and powerful, and might even be stronger in more anonymous settings such as hiring decisions and job evaluations. Last, because participants make choices very quickly, usually within a few seconds of the preceding bids, we acknowledge that their choices may rely more on fast, implicit tendencies than on careful deliberation. Yet, many important real-life decisions such as granting parole or stop-and-frisk are also fast-paced, and our results might inform behaviour in such settings.

These results, coming in the context of a game show, thus may not be directly applicable to some other contexts. For example, under perfect competition, discrimination on average does not yield discrimination on the margin. There is no such mechanism in our environment. In fact, the modal contestant could be unbiased and yet bias can occur at the margin. Where our results might be informative is that they suggest rather strong implicit gender-based biases, given the substantial incentives the contestants faced to be gender neutral. To the extent that these implicit biases manifest in other field settings such as work environments, the general tendency to grant favours towards members of one's own gender may have a disparate impact on women, particularly in male-dominated occupations.

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Appendix

Robustness Checks and Alternative Mechanisms

A potential threat to our identification is that some items such as power tools and handbags are stereotypically considered male or female. If male (female) fourth bidders have relatively poor knowledge of the price of opposite-gender items, it may be rational to cut off an opponent of the opposite gender even without favouring one's own gender. After all, opposite gender opponents plausibly have better price knowledge and hence their bids might on average be closer to the target value. To address this concern, we determine the gender stereotype associated with each item. Independent coders hired on the mTurk platform categorised all items according to whether they believe males or females (or neither) are more likely to know the price of that item. Each item received two evaluations that took the value of 0 (female), 1 (neither) or 2 (male). We averaged these evaluations to create a gender scale that ranges from 0 (both coders think males have better price knowledge) to 2 (both coders think females have better price knowledge).[13] For each fourth bidder, we then convert these ratings into a 'item gender distance' variable, which ranges from 0 (the item's gender corresponds to that of the fourth bidder) to 2 (the item's gender is opposite to gender of the fourth bidder).

To examine whether gender stereotyped items can explain the pattern of own-gender favouritism, we first examine cutoff patterns for items coded as male (score below 1) or female (score above 1). Figure A3 shows the results. For both male and female items, we observe own-gender favouritism, suggesting that both genders display favouritism for both

[13] 7 percent of items could not be gendered because we do not know the name of the item.

male and female items. In our next step, we estimate our main regression model with ‘item gender distance’ as an additional control variable. The results in Table A5, Panel A are similar to our main findings. Taken together, the pattern of own-gender favouritism we observe does not appear to be explained by gender stereotyped items.

Another threat to our identification is that male and female fourth bidders who identify an own-gender lead are less strategically sophisticated than those who identify someone of the opposite gender to be in the lead. We address this concern in two ways. First, we examine whether those who win the *One Bid* game by overbidding an opposite-gender opponent accumulate more prize money in the subsequent round. Winnings in the next round provide a good proxy for strategic sophistication, because most of the pricing games that are played in this round are also of a strategic nature. For the subset of *One Bid* winners, we regress their log earnings in the next round on whether they overbid an opponent of the same gender in the *One Bid* round. Second, we analyse the subset of rounds in which fourth bidders correctly overbid the leading bidder. The idea is that price knowledge, as indicated by overbidding the right opponent, may correlate with strategic sophistication. If true, and if the gender match effect is caused by unobserved strategic sophistication, we would expect the opposite-gender cutoff pattern to be diminished in this subset of rounds.

The results in Table A5, Panel B show that *gender match* does not significantly predict next round winnings. Hence, those who identify opposite-gender first leads do not perform better at some other set of strategic games. In addition, the results in Table A5, Panel C indicate a similar pattern of opposite-gender cuttofs as in our main results when the fourth bidder identifies the correct leader. The estimated coefficients are even slightly larger than in our main specification. Taken together, the observed pattern of gender favouritism does not seem to be explained by differences in strategic sophistication.

Another potential issue is that a small fraction of fourth bidders who lose the *One Bid* game might become fourth bidders again later that episode. Because cutting increases the chance of winning, cutters are more likely to drop out than those who do not cut, which introduces a survival bias towards non-cutters. Although it is unclear how this selection mechanism would give rise to a same-gender bias, we nevertheless explore the robustness of our results to restricting our analysis to first-time fourth bidders only. The results in Table A5, Panel D closely correspond to our main results, suggesting that our conclusions are not explained by repeat-appearances of fourth bidders.

We may impose an even more stringent restriction on our data by only considering the first round of the *One Bid* game of every episode. Doing so addresses any remaining concerns about (i) changing gender compositions over the course of the episode, (ii) retaliation of contestants who previously cut off the current fourth bidder, and (iii) serial correlation of observations within an episode.[14] First round bids arguably provide the cleanest identification with regards to possible dynamics, although incentives to cut are lower in the first round because fourth bidders who lose still get multiple chances to win the *One Bid* game in later rounds. Because of the relatively clean identification, we also present the robustness of our other findings to the same sample restriction. In particular, we consider the symmetry in own gender favouritism between males and females, the robustness check controlling for gender stereotyped items, and the absence of evidence that overbidding opposite gender opponents correlates with strategic sophistication.

[14] Alternatively, we can cluster standard errors at the episode level. Doing so leaves all conclusions intact.

Table A6 shows the results. Even though we exclude roughly 80 percent of our data, the main specification in Panel A shows that the *Gender match* coefficient remains significantly negative. In fact, the estimated effect size is larger in the first round than in our main analysis, which is sensible given that lower incentives to cut off may give rise to more discretionary use of the cutoff. Mirroring our main analyses, we find no significant asymmetry in own-gender favouritism between men and women (Panel B), no effect of gender stereotyped items (Panel C), and no compelling evidence that opposite gender cutoffs are explained by unobserved variation in strategic sophistication (Panel D).

For our most extreme control, we consider the subset of contestants who are fourth bidders more than once. For these contestants, we can add individual fixed effects to control for all unobserved characteristics that may influence the results.[15] Table 2 shows the results. Despite the drastic sample size reduction and the large number of fixed effects, the results are qualitatively and quantitatively similar to our main results.

One may further worry that the gender composition of contestants, as well as the gender norms, have changed over time. Figure A6 shows that the fraction of female fourth bidders decreased from approximately 85% in 1972 to 60% in 1990, but remained stable thereafter. Although these changes should not influence our main results—we always consider cutoffs as a fraction of situations in which one gender overbids another[16]—one may nevertheless be interested in the evolution of the effect over time. Figure A7 shows the estimated effect for a rolling 20 year window. Between 1972 and 2021, the estimated gender match coefficient remains largely stable.

[15]For simplicity, we use episode-by-name fixed effects, and remove all episodes in which the same name features twice in one *One Bid* round.

[16]In addition, we estimate specifications with composition fixed effects

Another potential concern is that we define cutoffs as bids that are exactly \$1 above another contestant's bid, which may be somewhat restrictive. Some bids may be "soft" cutoffs in that they are larger than another bid by a small amount (e.g. \$5), which does not meet our definition, but bring nearly the same strategic advantage. One possible explanation for our results is that fourth bidders are more likely to use strict cutoffs against opposite-gender opponents, but soft cutoffs against same-gender opponents.

Figure A4 shows the sensitivity of the gender-match coefficient when we extend the cutoff definition to a wider range of values. As the definition of a cutoff gets arbitrarily large, a cutoff cannot be distinguished from our other bids and the gender match coefficient should approach zero. We find exactly this pattern: the coefficient on gender match remains negative and significant for any cutoff threshold between \$1 and \$100, but decreases in magnitude as the threshold becomes larger. Thus, our results cannot be explained by differential use of soft cutoffs by fourth bidders.

A last potential issue is that we infer each contestant's gender from the frequency with which that name is given to a particular gender at birth. More specifically, we assume that any name given to at least 50% boys or girls are sufficient to determine the gender of a contestant. This procedure almost necessarily introduces some degree of misclassification, although this cannot account for our full set of results unless males disproportionately cut off misclassified females while females mostly cut off misclassified males.

We nevertheless examine the robustness of our results to imposing stricter gender classification thresholds. Figure A5 shows that our main effect—same gender bias in cutoff probability—remains remarkably stable to stricter classifications. We find negative and significant effects even if we only consider contestants whose names are at least 99% male or female.

One-Dollar Bids

For fourth bidders who bid below all other contestants, it is weakly dominant to bid exactly \$1. Our main analysis excluded \$1 bids because they affect all other contestants equally.[17] Hence, refraining from making such a bid cannot be construed as a favour to any particular contestant, making it difficult to study gender favouritism towards any person in particular. Nevertheless, because \$1 bids lower the chance that all other contestants win, fourth bidders making higher bids can be interpreted as a favour to all three opponents.

To study whether there is a pattern of gender favouritism in \$1 bids that is consistent with our main analyses, we examine the behaviour of fourth bidders who bid lowest. Because bidding \$1 is unkind towards the other contestants, we examine the likelihood fourth bidders bid exactly \$1 based on the gender composition of the first three bidders. Insofar as contestants are disproportionately inclined to extend favours to members of their own gender, we should expect fewer \$1 bids when fourth bidders face more same-gender opponents.

Table A1 shows the results. Consistent with our main results, the number of same-gender opponents among the first three bidders significantly reduces the probability of bidding \$1. Depending on the specification, the estimated reduction ranges from 3.1 to 3.5 percentage points for every additional same-gender opponent. As such, these results corroborate the pattern of own-gender favouritism we observed in our earlier results.

[17] Compared to \$1 bids, higher bids (that are still below all other contestants) affect contestants 1-3 equally because such bids increase the chance that the fourth bidder (and thus all contestants overbid), after which the whole round needs to be repeated.

Table A1: Likelihood of bidding $1 based on gender match with first three contestants

	Model 1	Model 2	Model 3	Model 4	Model 5
Male	0.026	0.027	0.027	0.026	0.027
	(0.021)	(0.020)	(0.020)	(0.020)	(0.020)
Same gender opponents	-0.031^{**}	-0.035^{***}	-0.035^{***}	-0.032^{***}	-0.031^{**}
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Target value				-0.0001^{***}	-0.00005^{***}
				(0.00001)	(0.00001)
Prior cutoffs					0.024^{***}
					(0.008)
Round fixed effects	No	Yes	Yes	Yes	Yes
Observations	3,238	3,238	3,238	3,238	3,238
Adjusted R^2	0.004	0.037	0.037	0.042	0.044

Notes: The table shows the estimated effect of same gender opponents the likelihood of bidding $1. The analysis includes all fourth bidders who underbid all other contestants and for which the gender composition of the first three opponents is known. *Same gender opponents* is the number of bidders one to three who are of the same gender as the fourth bidder. All other definitions are as in Table 1.

Additional Figures and Tables

Table A2: Sample restrictions

Tables and Figures	Sample restrictions	Observations
Figures 2, A1, A4 and A5 and tables 1, A3 and A5 (Panel A)	4th bidders, bid not lowest	11,016
Table 3	4th bidders, bid not lowest, not all overbid	10,991
Table A5 (Panel B)	4th bidders, bid not lowest, wins round	4,470
Table A5 (Panel C)	4th bidders, bid not lowest, correctly identifies leader	5,730
Table A5 (Panel D)	First-time 4th bidders	8,820
Table A6 (Panels A, B and C)	4th bidders, bid not lowest, first rounds	1,986
Table A6 (Panel D)	4th bidders, bid not lowest, first rounds, wins round	807
Figure A2	1st bidders	15,830
Figure A3	4th bidders, bid not lowest, male/female items	8,186
Table A1	4th bidders, bid lowest	3,382

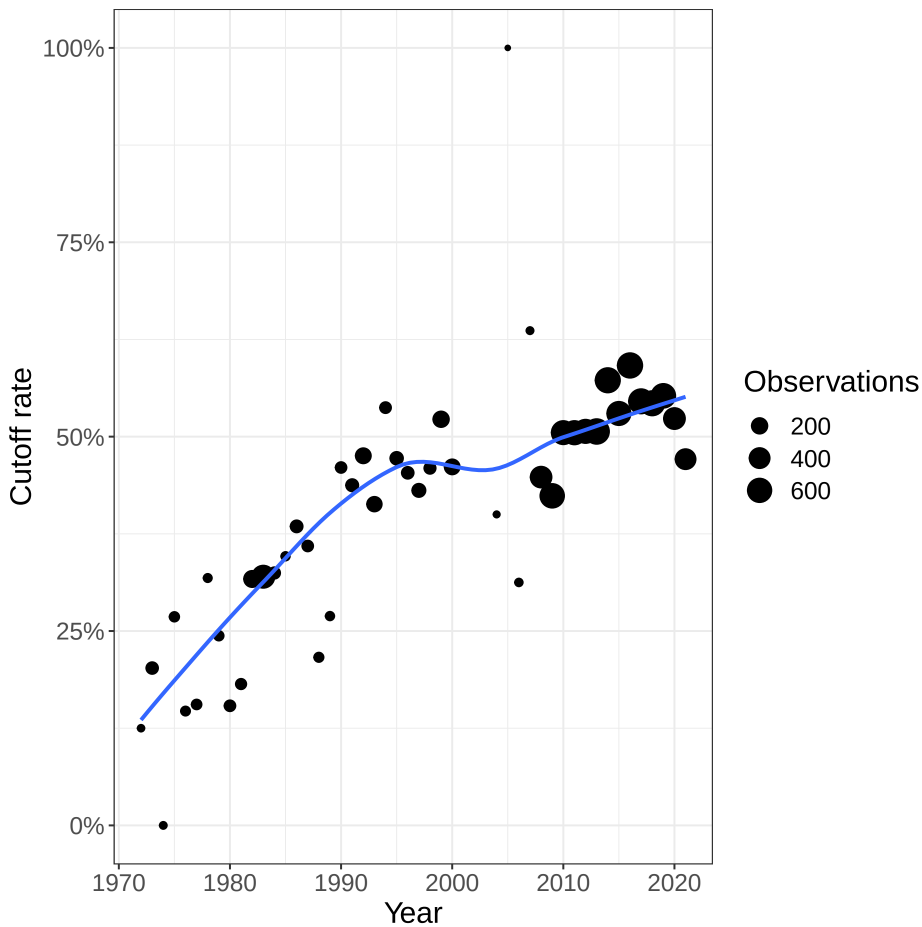
Notes: The table shows the sample restrictions for all analyses. The number of observations in some of the tables might slightly deviate from the number reported here, because some covariates contain missing values.

Table A3: Likelihood of cutting off based on gender match, interaction with stakes

	Model 1	Model 2	Model 3	Model 4
Male	0.050^{***}	0.051^{***}	0.051^{***}	0.049^{***}
	(0.010)	(0.010)	(0.011)	(0.011)
Gender match	-0.029	-0.036^{*}	-0.049^{**}	-0.048^{**}
	(0.021)	(0.021)	(0.022)	(0.022)
Target value	-0.00002^{***}	-0.00001^{*}	-0.00002^{**}	-0.00002^{**}
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Prior cutoffs				0.052^{***}
				(0.005)
Gender match x Target value	-0.00001	-0.00001	0.00000	0.00000
	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Round fixed effects	No	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes
Observations	11,016	11,016	10,133	10,133
Adjusted R^2	0.007	0.020	0.022	0.033

Notes: The table reports heterogeneity in the propensity to cut off opposite-gender opponents based on the value of the item up for bids. All definitions are as in Table 1.

Figure A1: Cutoff rate over time

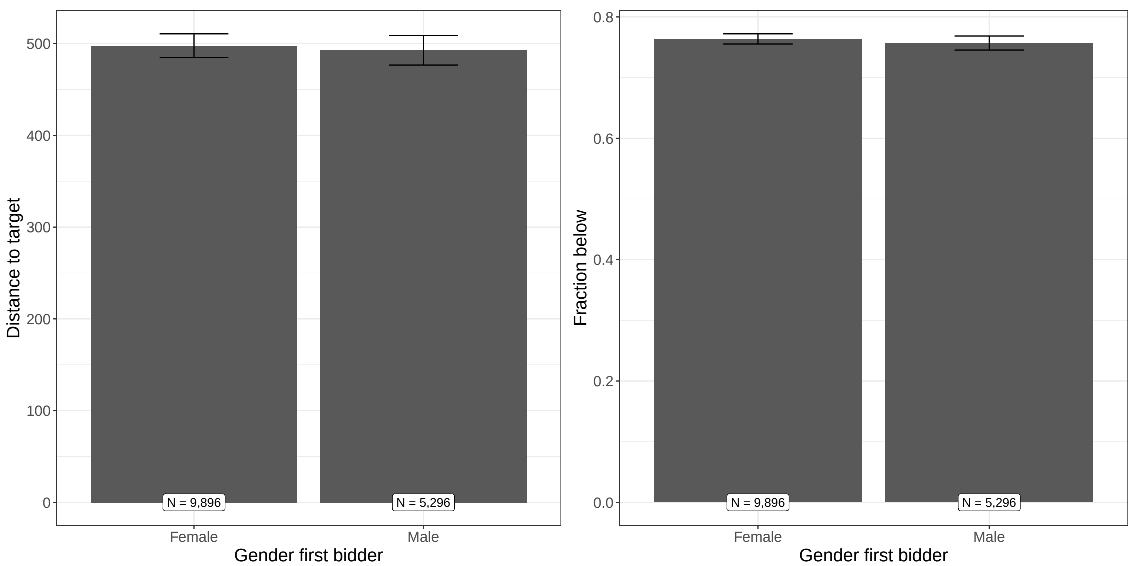


Notes: The figure shows the yearly cutoff rate between 1972 and 2021. The cutoff rate is reported for all fourth bidders who overbid at least one other opponent. The size of the dots corresponds to the number of observations. The smoothed curve is estimated using locally weighted scatterplot smoothing.

Figure A2: Performance first bidders by gender

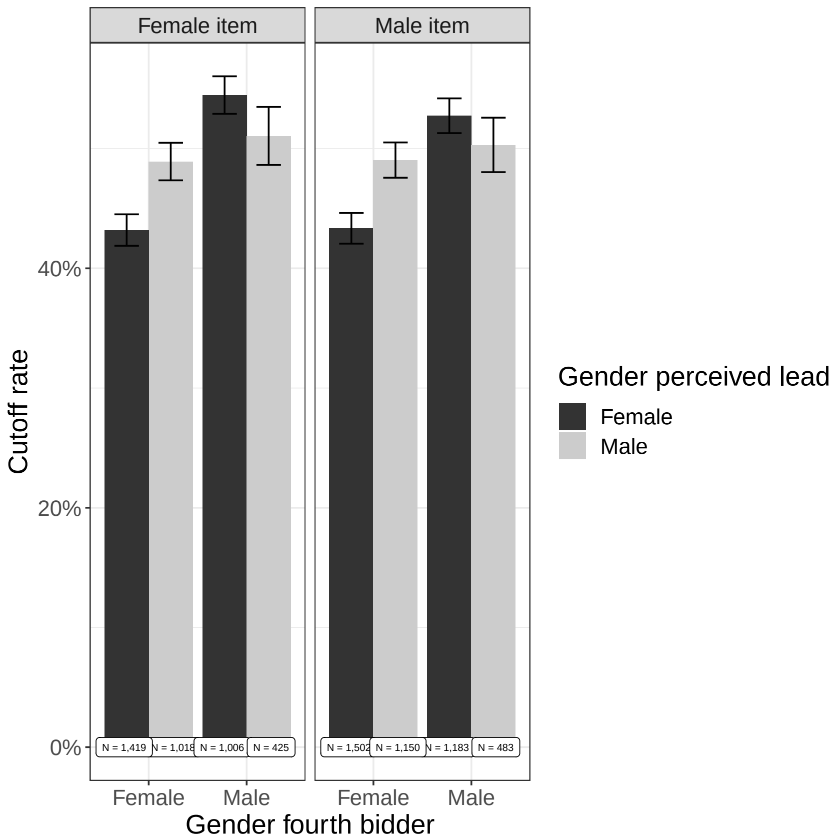
(a) Distance to target

(b) Fraction below target



Notes: The figure displays the quality of bids by male and female first bidders. Quality of bids is measured either by the distance to the target item's price (Panel A) or by the fraction of bids below the target item's price (Panel B). Error bars represent 95% confidence intervals.

Figure A3: Cutoff rates for gendered items



Notes: The figure shows the cutoff rates of male and female fourth bidders by the gender of the perceived leading bidder. The left panel shows cutoff rates for female stereotyped items, the right panel shows the cutoff rates for male stereotyped items. Error bars represent 95% confidence intervals.

Table A4: Summary statistics

	Male fourth bidder	Female fourth bidder
Panel A: General statistics		
Episodes	2,434	2,771
One Bid rounds	5,826	9,312
Target price	$1,466	$1,510
Expected winnings	$12,176	$11,875
First bidder female	0.682	0.594
Second bidder female	0.588	0.595
Third bidder female	0.725	0.518
First bidder wins	0.180	0.184
Second bidder wins	0.200	0.197
Third bidder wins	0.199	0.203
Fourth bidder wins	0.456	0.437
Panel B: Fourth bidder statistics		
Optimal decisions	0.543	0.483
Cutoffs	0.388	0.351
One dollar bids	0.155	0.133
Cut off 1st bidder	0.236	0.243
Cut off 2nd bidder	0.294	0.293
Cut off 3rd bidder	0.470	0.464
Win (optimal)	0.473	0.472
Win (suboptimal)	0.300	0.299

Notes: Summary statistics for *One Bid* games with male (left) and female (right) fourth bidders. Optimal decisions include both cutoffs and $1 bids. The Fourth bidder cutoff rates of first, second and third bidders are conditional on using the cutoff strategy. Win (optimal) and Win (suboptimal) are the win percentages of fourth bidders who do and do not use the optimal strategy.

Table A5: Robustness checks

	Model 1	Model 2	Model 3	Model 4	Model 5
Panel A: Gender stereotyped items					
Male	0.054***	0.054***	0.057***	0.056***	0.053***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Gender match	−0.044***	−0.048***	−0.045***	−0.044***	−0.042***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)
Target value				−0.00002***	−0.00002***
				(0.00001)	(0.00001)
Prior cutoffs					0.053***
					(0.005)
Target gender match	0.003	0.004	0.005	0.005	0.005
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	10,174	10,174	9,370	9,370	9,370
Adjusted R^2	0.006	0.019	0.022	0.022	0.033
Panel B: Winnings in next round					
Male	−0.001	−0.001	0.003	0.012	0.013
	(0.040)	(0.040)	(0.043)	(0.042)	(0.042)
Gender match	0.020	0.026	0.037	0.017	0.016
	(0.039)	(0.039)	(0.041)	(0.040)	(0.040)
Target value				0.0004***	0.0004***
				(0.00003)	(0.00003)
Prior cutoffs					−0.020
					(0.019)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	4,470	4,470	4,135	4,135	4,135
Adjusted R^2	−0.0004	0.0002	−0.0001	0.044	0.044
Panel C: Perceived lead = actual lead					
Male	0.048***	0.047***	0.043***	0.044***	0.040***
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
Gender match	−0.044***	−0.047***	−0.049***	−0.052***	−0.050***
	(0.014)	(0.014)	(0.015)	(0.014)	(0.014)
Target value				0.0001***	0.0001***
				(0.00001)	(0.00001)
Prior cutoffs					0.044***
					(0.007)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	5,730	5,730	5,291	5,291	5,291
Adjusted R^2	0.005	0.014	0.017	0.022	0.030
Panel D: First time bidders					
Male	0.047***	0.047***	0.046***	0.046***	0.044***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
Gender match	−0.047***	−0.052***	−0.053***	−0.052***	−0.050***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
Target value				−0.00002**	−0.00002**
				(0.00001)	(0.00001)
Prior cutoffs					0.046***
					(0.005)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	8,820	8,820	8,089	8,089	8,089
Adjusted R^2	0.005	0.016	0.020	0.021	0.029

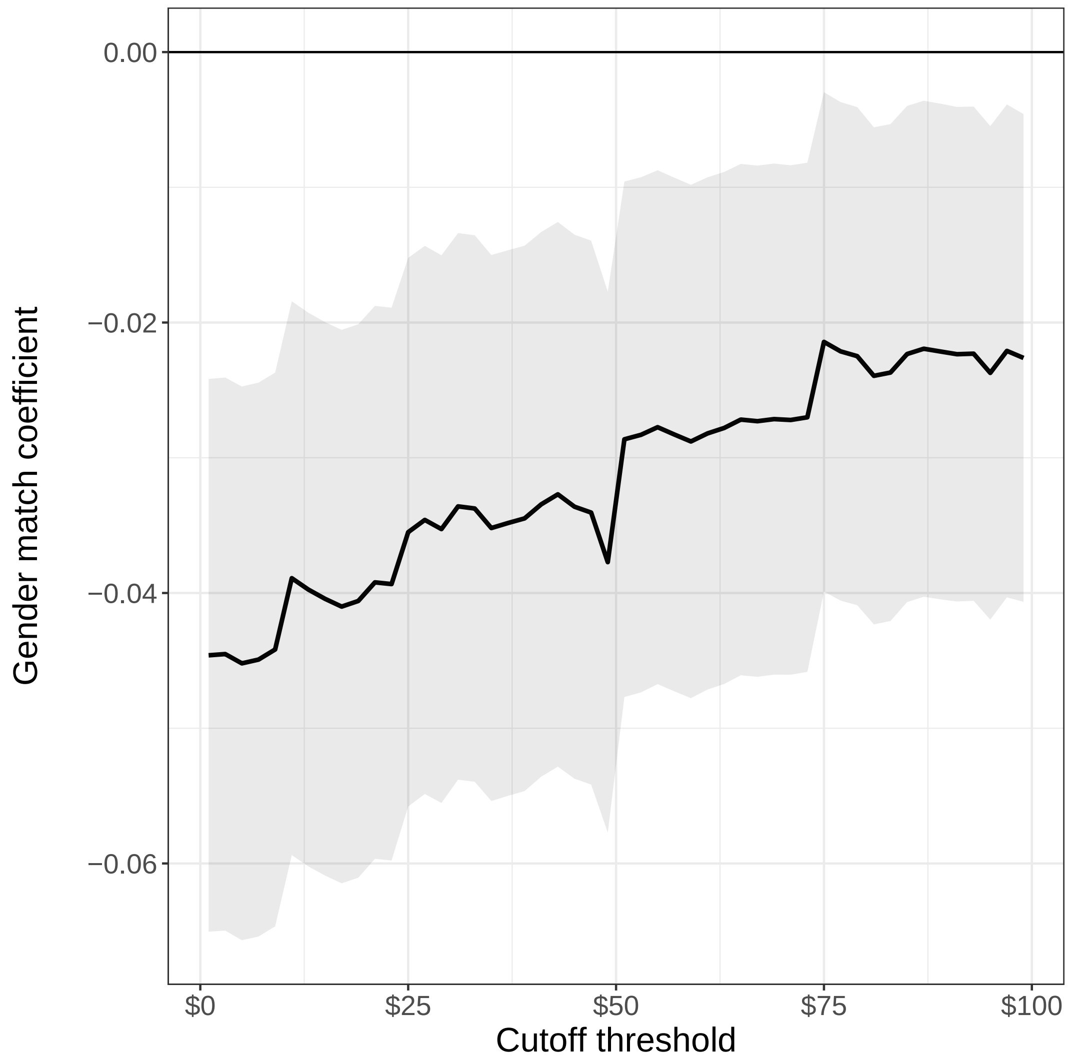
Notes: The table reports four robustness checks for the estimated effect of gender match between the fourth bidder and the perceived leader on the probability of cutting off. Panel A controls for the 'genderedness' of an item. The variable *Target gender match* measures the distance between a fourth bidder's gender and the gender of the item. Panel B examines the amount of money won in the next round for the subset of fourth bidders who win the *One Bid* round. Panel C shows the results for the subset of rounds in which fourth bidders correctly identify the leading bidder. Panel D shows an analysis of only first time fourth bidders. All definitions are as in Table 1.

Table A6: Results first round only

	Model 1	Model 2	Model 3	Model 4	Model 5
Panel A: Main analysis					
Male	0.068***	0.068***	0.073***	0.073***	0.073***
	(0.023)	(0.023)	(0.027)	(0.027)	(0.027)
Gender match	−0.072***	−0.072***	−0.049**	−0.049**	−0.049**
	(0.023)	(0.023)	(0.025)	(0.025)	(0.025)
Target value				0.00000	0.00000
				(0.00001)	(0.00001)
Prior cutoffs					0.020
					(0.044)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	1,986	1,986	1,833	1,833	1,833
Adjusted R^2	0.011	0.011	0.013	0.012	0.012
Panel B: Asymmetric own-gender favouritism					
Male	0.060**	0.060**	0.087**	0.087**	0.086**
	(0.029)	(0.029)	(0.035)	(0.035)	(0.035)
Gender match	−0.080***	−0.080***	−0.037	−0.037	−0.037
	(0.028)	(0.028)	(0.032)	(0.032)	(0.032)
Target value				0.00000	0.00000
				(0.00001)	(0.00001)
Prior cutoffs					0.020
					(0.044)
Male x Gender match	0.023	0.023	−0.032	−0.032	−0.031
	(0.048)	(0.048)	(0.055)	(0.055)	(0.055)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	1,986	1,986	1,833	1,833	1,833
Adjusted R^2	0.011	0.011	0.013	0.012	0.012
Panel C: Gender stereotyped items					
Male	0.066***	0.066***	0.074***	0.074***	0.074**
	(0.025)	(0.025)	(0.029)	(0.029)	(0.029)
Gender match	−0.073***	−0.073***	−0.047*	−0.047*	−0.047*
	(0.024)	(0.024)	(0.026)	(0.026)	(0.026)
Target value				−0.00000	−0.00000
				(0.00001)	(0.00001)
Prior cutoffs					0.036
					(0.048)
Item gender distance	0.006	0.006	0.013	0.013	0.012
	(0.017)	(0.017)	(0.018)	(0.018)	(0.018)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	1,747	1,747	1,614	1,614	1,614
Adjusted R^2	0.010	0.010	0.013	0.013	0.012
Panel D: Winnings in next round					
Male	−0.070	−0.070	−0.069	−0.029	−0.027
	(0.092)	(0.092)	(0.106)	(0.103)	(0.103)
Gender match	0.008	0.008	−0.003	−0.009	−0.011
	(0.091)	(0.091)	(0.098)	(0.096)	(0.096)
Target value				0.0003***	0.0003***
				(0.0001)	(0.0001)
Prior cutoffs					−0.042
					(0.146)
Round fixed effects	No	Yes	Yes	Yes	Yes
Gender composition fixed effects	No	No	Yes	Yes	Yes
Observations	807	807	739	739	739
Adjusted R^2	−0.002	−0.002	−0.0003	0.049	0.047

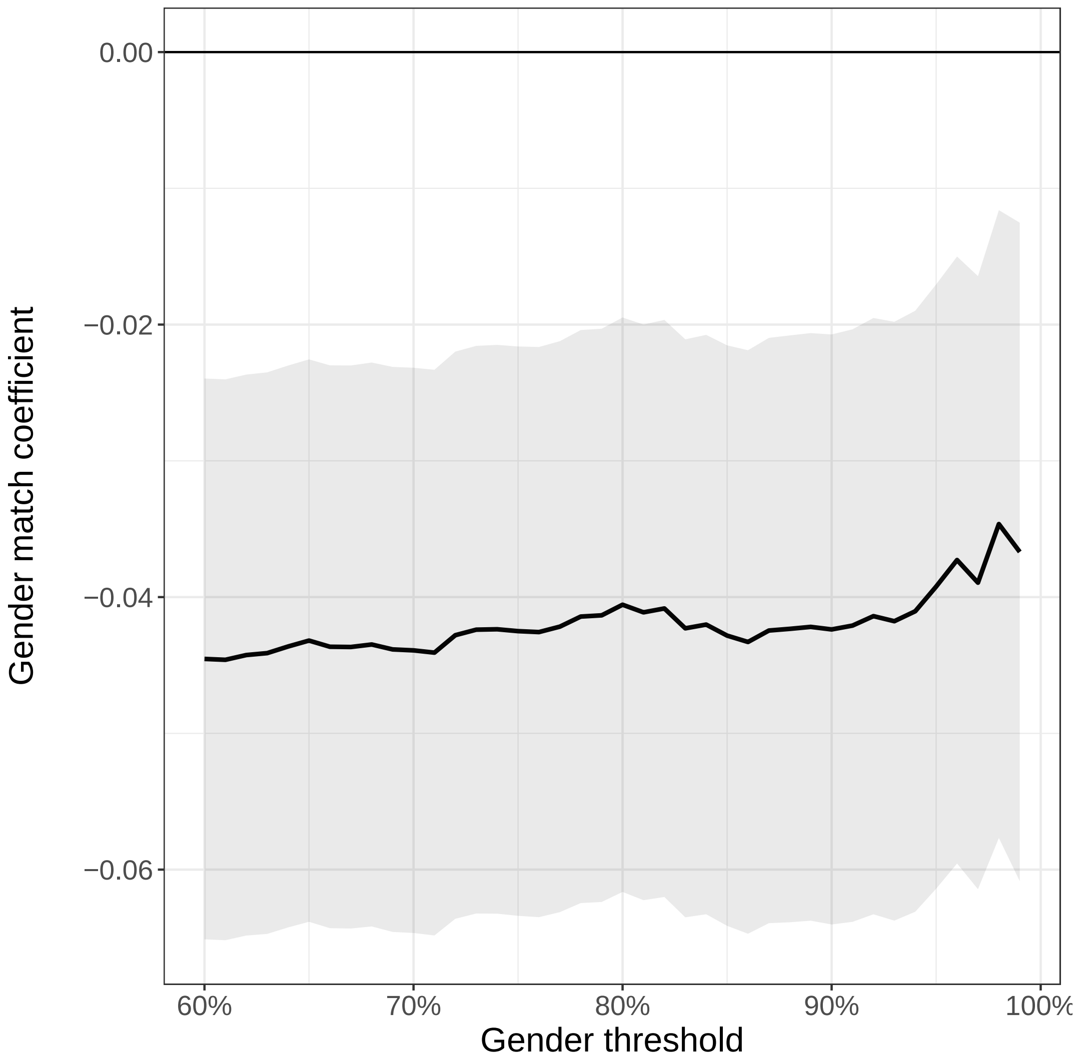
Notes: The table reports four analyses for the first *One Bid* round of each episode. Panel A shows our main analysis. Panel B shows adds an interaction term between *Gender match* and *Male*, Panel C controls for the genderedness of the item, and Panel D examines log winnings in the next round for fourth bidders who win the current *One Bid* round. All definitions are as in Table 1.

Figure A4: Sensitivity to cutoff definition



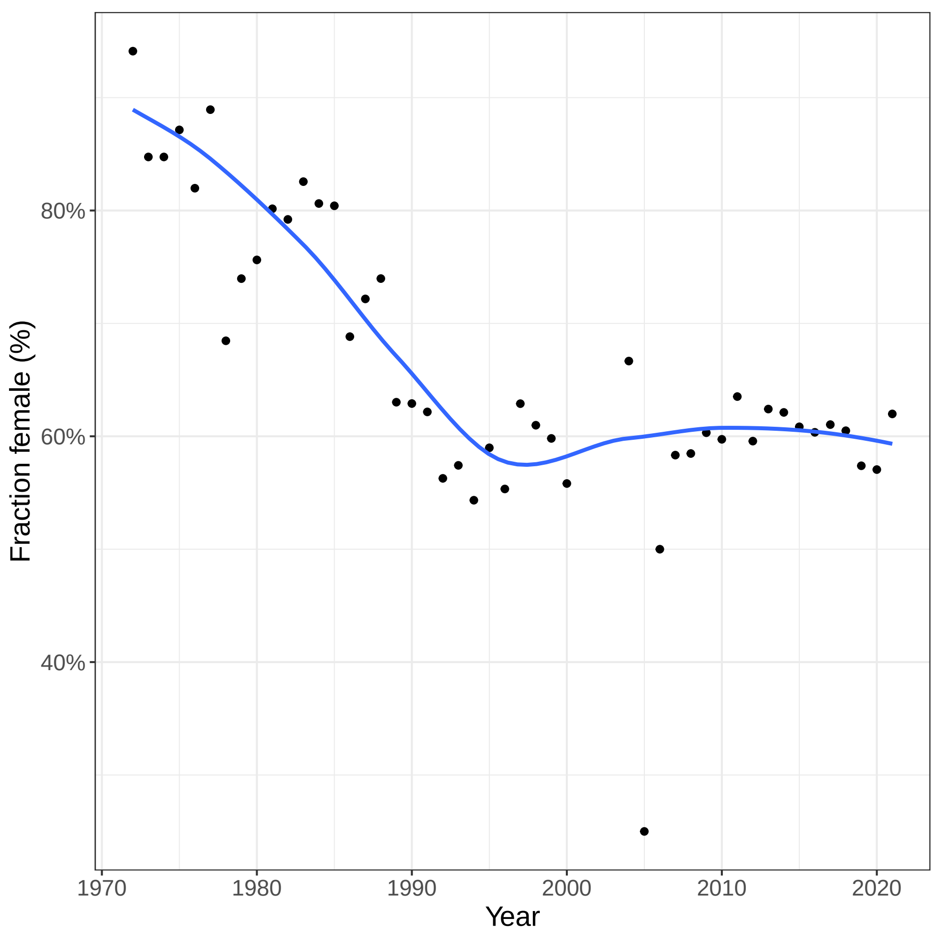
Notes: The figure shows the estimated effect of gender match between the fourth bidder and the perceived leader on the probability of cutting off for different cutoff definitions. The horizontal axis represents the maximum distance between the fourth bid and the lowest preceding bid to be considered a cutoff. We report the estimates for the most complete specification. Shaded areas represent 95% confidence intervals of the estimated effect.

Figure A5: Sensitivity to gender definition



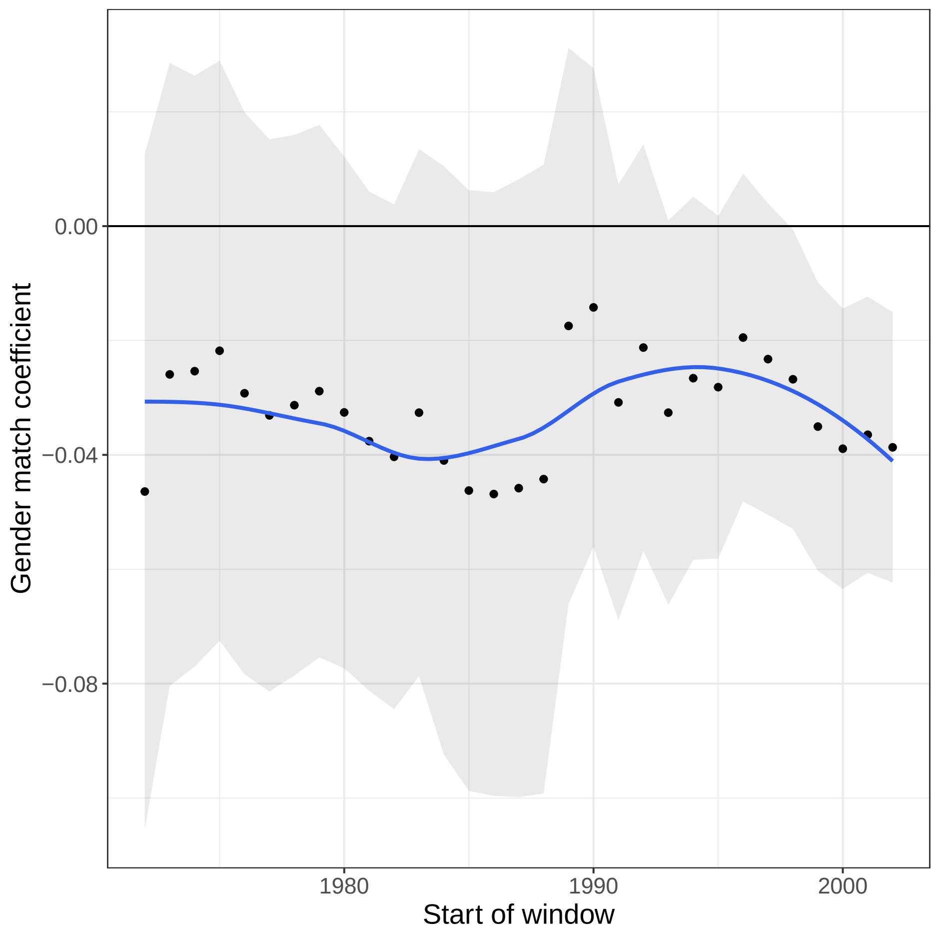
Notes: The figure shows the estimated effect of gender match between the fourth bidder and the perceived leader on the likelihood of using a cutoff. Both the fourth bidder and the perceived leader's names must be given to at least X% of newborn boys or girls, where the value of X is displayed on the horizontal axis. We report the estimates for the most complete specification. Shaded areas represent 95% confidence intervals of the estimated effect.

Figure A6: Gender composition over time



Notes: The figure shows the yearly fractions of female fourth bidders between 1972 and 2021. The fitted curve is a loess regression weighted by the number of observations per year. Some years (e.g. 2004 and 2005) only have a handful of observations.

Figure A7: Gender favouritism over time



Notes: The figure shows the estimated effect of a gender match between the fourth bidder and the perceived leader over time. Each dot represents the estimated effect for a 20-year period. The horizontal axis represents the first year of the window. All estimated effects include the full set of controls (column 5 in Table 1.