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MEN): EVIDENCE FROM ALTERNATING-
OFFER BARGAINING IN THE FIELD**

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LABOUR ECONOMICS



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Keywords: Alternating-offer bargaining, gender differences, gender interaction effects, field data.

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Women ask for less (only from men): Evidence from alternating-offer bargaining in the field*

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1 Introduction

The gender wage gap has long been an important object of study in economics. Although it has shown a decreasing trend over time, its persistence in developed countries challenges the classical explanations based on differences in human capital, preferences or statistical discrimination (Blau and Kahn, 2000).

Gender differences in negotiation have been put forward as an alternative explanation for the gender gap. Starting wages are often the result of bilateral negotiation. The influential book by Linda Babcock and Sara Laschever “Women don’t Ask” reveals important gender differences in the likelihood of negotiating. A study mentioned in the book shows that among graduates of Carnegie Mellon University 57% of men negotiated the starting salary offered, while only 8% of women did so. Moreover, wages are also affected by negotiations that come later during one’s career, e.g. for pay increases. If women are less likely to negotiate starting salaries, and/or if women are less likely to ask for a pay increase, this will clearly go some way towards explaining the gender wage gap (Azmat and Petrongolo, 2014; Card et al. 2015).

Alternating-offer bargaining at a TV show offers a unique opportunity to observe bargaining outcomes and behavior in a real-life situation with sizable stakes. In the show a contestant who plays the role of the proposer in the bargaining, is asked a question. The contestant cannot provide the answer herself/himself but has three minutes to find someone, who plays the role of responder, from whom the answer can be bought in an alternating-offer setting. In a typical bargaining round, the proposer makes an initial offer which may be accepted or rejected by the responder. If the responder rejects it then he/she can post a demand, which may be accepted or rejected by the proposer. Bargaining can extend over any number of rounds within the three minute limit. If the answer is correct, the pie is divided up as agreed in the bargaining.

In the paper we study two main research questions. First, are male and female contestants equally likely to choose male and female responders to bargain with? We study gender differences when choosing the gender of the bargaining partner. Second, is bargaining between male-male, male-female, female-male and female-female matchings different? We study both gender differences and gender interaction effects in bargaining.

We find that although both male and female proposers are more likely to choose

male responders, male proposers show a stronger preference for male bargaining partners. This is consistent with taste-based discrimination but also with gender differences in beliefs.

With respect to bargaining outcomes, we find that negotiations between male proposers and female responders stand out from negotiations between all other gender combinations: they are the most favorable for men and the least favorable for women in terms of earnings. In explaining the details of our bargaining setting, we argue that proposers hold a stronger position than responders. In that sense, it is precisely when the proposers are male and the responders are female that men are found to end up with higher bargaining outcomes.

To understand the gender interaction effects in bargaining outcomes, we then look at gender interaction effects in bargaining behavior. We analyze offers, demands and probabilities of accepting by responders and proposers. We find no differences in opening offers between male and female proposers, or in opening offers to male and female responders. More interestingly, we find that it is women who discriminate between male and female proposers, demanding less from men than from women, which explains why the matching between male proposers and female responders end up with the highest earnings for the proposer. It is not the case that men offer less to women but it is women who demand less to men, when men hold the role of the proposer and women hold the role of the responders.

Male proposers who choose female responders are not of a particular type and female responders who are chosen by male proposers are not of a particular type. Based on important observable characteristics of both proposers and responders, we show that male proposers who choose male responders do not significantly differ from male proposers who choose female responders. Similarly, female responders who are chosen by male proposers do not significantly differ from female responders who are chosen by female proposers. In addition, using the probability score matching technique, we find that our results are not driven by selection problems. On the downside, we cannot rule out selection based on characteristics that are unobservable, such as beliefs.

Gender differences in bargaining have been studied by economists. For example, male proposers' behavior has been analyzed in studying discrimination by carrying out field experiments in which the gender of potential scripted buyers is varied (Ayres, 1991, Ayres and Siegelman, 1995, and Castillo et al., 2013). To study gender differences

in wage negotiation, Säve-Söderbergh (2007) uses wage bids and wage offers of recent graduates and finds that women post lower wage bids, and receive lower offers. More recently, Leibbrandt and List (2012) find, using a field experiment, that women are less likely to negotiate their salary when wages are not described explicitly as negotiable, but that the difference disappears when they are described as negotiable. Closer to our setting, using also data from a TV-show, Van Dolder et al. (2015) find gender to be an insignificant determinant of contestants' initial claims, their hardball announcements and concessions, and the shares they end up with. There are however, important differences between our setting and theirs. First, bargaining is between three parties in their setting, while it is between two parties in ours. Second, bargaining in their setting consists of an allocation problem, where the pie is split into three unequal shares and contestants have to decide who gets which, while in ours it consists of an alternating-offer bargaining. Most importantly, they study only gender differences and not gender interaction effects. Economists have also studied gender differences in controlled settings such as the laboratory, mostly using the ultimatum game, which represents a reduced-form bargaining setting, as it allows for a single offer (or demand) and the response to it. Rigdon (2013) finds that women demand less than men in a demand-ultimatum-game in the laboratory, and Andersen et al. (2014) find that gender differences in bargaining depend on culture. More recently, Exley et al. (2016) study gender differences in the choice to negotiate, and in their baseline treatment, where subjects are *forced* to negotiate, they find that men and women achieve similar returns.

Gender interaction effects in bargaining have received less attention. Given that bargaining requires interaction between two agents, gender differences in one role may crucially depend on the gender of the interlocutor. Existing studies based on field data or field experiments do not study gender interaction effects, either because the gender of the person in one role is not known (e.g. Leibbrandt and List, 2012), or because there is not enough variation (e.g. Castillo et al., 2013). Economists are thus limited to the use of laboratory experiments. Using mostly face-to-face ultimatum games, Eckel and Grossman (2001), and Solnick (2001) show that offers to women are lower than offers to men, and that women are more likely to accept offers.¹ Sutter et al. (2009)

¹To be precise, Eckel and Grossman (2001) find that women are more likely to accept offers, while Solnick (2001) finds that women are more likely to accept offers from male proposers than from female

find more competition and retaliation between same gender matchings than mixed gender matchings using the power-to-take game. Eriksson and Sandberg (2012) find that women are less likely to initiate a negotiation if they are matched with a female partner. More closely related to our setting, Dittrich et al. (2014), using a laboratory face-to-face alternating-offer wage-bargaining game, find that starting salaries offered by men to women are lower than those offered by women to men, resulting in significant gender interaction effects on wage-bargaining outcomes. This line of research shows that observed gender differences depend crucially on the gender of the interacting individual, so such interactions deserve equal attention.

Our setting offers multiple advantages over laboratory experiments. First, the pie to be divided is worth an average of 345 Euro, so the stakes are sizable and significantly bigger than in a typical laboratory experiment. Please, see Van Dolder et al. (2015) for similar arguments on the importance of stakes. Second, except for the three minute limitation the bargaining is not structured, so the observed negotiations in the tv-show are closer to the type of bargaining that happens in real-life than the structured negotiations in the laboratory. The setting also offers some advantages over standard field data given that the bargaining process is recorded. First, the setting allows not only bargaining outcomes, such as whether the negotiation was successful, proposers' and responders' bargaining outcomes or the duration of the negotiation but also bargaining strategies and bargaining behavior itself to be observed, such as round by round offers, demands and probabilities of accepting. Second, there is gender variation in the roles of both proposers and responders, so it is possible to study not only gender differences but most importantly, also gender interaction effects within different bargaining matchings.

Our setting also presents limitations that can affect external validity. One limitation that should be kept in mind is the extent to which the individuals studied are representative, as they are willing to, and indeed do, participate in a TV show. In that respect, the participation bias might be lower than in other shows as the show in question is recorded in the main streets of major cities in Spain and not in a studio. The recruitment process is therefore somewhat non-standard, as the contestants are picked on the spot. Second, audience effect must be taken into account, as the observed behavior might be influenced by it. These two limitations are common to all

proposers.

studies that use behavior at a TV show (List, 2006; Post et al., 2008; Van Dolder et al., 2015). Finally, the interactions we observe are one-shot, while reputation built in repeated-interactions is important when bargaining in the labor market.

Overall, our findings are consistent with the literature that finds that women demand less and are offered less. In addition, the paper makes three important contributions. First, in line with the few papers that look at gender interactions (Eckel and Grossman, 2001, Solnick, 2001, and Dittrich et al., 2014) it confirms that gender interactions are crucial in understanding gender differences. When looking at both gender differences and gender interaction effects, we show that looking at only gender differences can show a misleading interpretation of results. As an example, the findings in this paper are consistent with findings by Säve-Söderbergh (2007) in the sense that women demand less. However, we show that this is only the case when the interaction is with men, i.e. women demand less *only from men*. Second, the paper offers evidence based on unstructured bargaining behavior observed in the field with sizable stakes, supplementary to the bargaining behavior observed in the laboratory. Finally, and in sharp contrast with Dittrich et al. (2014), we find that in our setting the determinant behavior that results in gender interaction effects does not reside in proposers' initial offers but in responders' demands.² In other words, no evidence of such discriminatory behavior is found in initial offers. It is female responders who demand less from male proposers, both in initial demands and subsequent demands.

The rest of the paper is organized as follows. Section 2 describes the TV show, the data and the identification strategy. Section 3 contains the analysis and results. We first analyze gender differences in the choice of the gender of the bargaining partner (Section 3.1). Then we study gender differences and gender interaction effects in bargaining outcomes (Section 3.2). Thirdly, we analyze bargaining behavior studying actual offers, demands and probabilities of accepting (Section 3.3). Section 4 shows the results of three robustness tests that address both the selection and unbalancedness problems in our data. Section 5 concludes.

²Although the setting in Dittrich et al. (2014) is closest to ours in that the negotiation occurs as in an alternating-offer game, there are also important differences. The most important one is that, contrary to our setting, proposers do not choose to break the negotiation, but the matching and breaking of negotiation is done randomly and exogenously.

2 The Data

2.1 The Setting: Alternating-offer Bargaining in a TV Show

We use the bargaining behavior from the Spanish TV show *Negocia como puedas*.³ This was a quiz-show that took place in the streets of major cities in Spain in the summer of 2013.

In a typical episode, the presenters pick a contestant, who is endowed with 100 Euro. He/she is then asked a question whose answer he/she cannot provide him/herself, independently of whether he/she knows the answer, and has three minutes to find someone on the street and negotiate a prize for the right answer via an alternating-offer bargaining. The contestant searches for a potential responder. The contestant can approach as many potential responders as he/she wants, and only when the potential responder provides an answer that is considered satisfactory to the contestant, he/she starts bargaining. In the bargaining, if an agreement is reached and the answer is correct then the 100 Euro is divided up as agreed. If the contestant does not reach an agreement within the three minutes, the game ends and he/she wins nothing. Negotiations may end with no agreement for two reasons: The time limit may be reached with no agreement, though this occurs very rarely (in 4% of the breakdowns), or (in the remaining 96% of the breakdowns) the contestant may decide to break off the negotiation and look for someone else to start a new negotiation. This is allowed as long as it occurs within the three minute time limit. The game is repeated up to 4 different times with different bargaining partners, as long as the questions are answered correctly. The answers to the questions are quite easy and trivial, and correct answers were given on 87% of occasions.⁴ We refer here to the four potential repetitions as stages. In

³The show's name translates as "Bargain How You Can". It was shown on national TV channel Cuatro.

⁴If the contestant reaches an agreement but the answer is incorrect, the amount negotiated is deducted. He/she is then allowed to use the *wildcard*, which consists of a phone call to a friend who must provide the correct answer, while the contestant is allowed to help but not to use any word from a list of forbidden words. The wildcard therefore, enables contestants to continue in the game even though the answer to the question is incorrect. There is only one wildcard. Most importantly, to use the wildcard an agreement must have been reached, such that the bargaining behavior is equally valid regardless of whether the contestant starts bargaining because he/she thinks the answer is correct or because he/she is running out of time and is doing so only to be able to use the wildcard.

the second stage the contestant is endowed with a further 200 Euro in addition to the money kept from the first stage, so the maximum size of the pie to be divided up in the second stage is 300 Euro. In the third stage there is an extra endowment of 300 Euro, so the maximum size of the pie is 600 Euro. The fourth and final stage is optional, but if the contestant decides to continue the extra endowment is 1000 Euro, such that the maximum size of the pie to be divided up is 1600 Euro. The amount of the pie is known only to the contestant. Note that the stakes are real and sizable.

We refer to the contestant as the proposer and to the person selected on the street as the responder. In a typical round of bargaining, the proposer starts with an offer, which the responder either accepts or rejects. If the responder rejects, then he/she can post a demand, which may be accepted or rejected by the proposer. We refer to the combination of proposer's offer, responder's response, responder's demand and proposer's response to the demand as a *round*. Note that a round does not need to be complete as one of the bargaining partners can remain silent in a specific round. However, in each round at least one of the bargainers must make an active move by posting an offer or a demand, and responding to an offer or to a demand. The bargaining process can take any number of rounds within the three minute limit. In the data used here the shortest bargaining process lasted for one round while the longest lasted for 15.

Given our setting, we argue that the proposer's position is strong while the responder's position is weak. First, it is the proposer who starts the negotiation with an opening offer (95% of the time). Research into bargaining has shown that the starting offer is an important determinant of outcomes (see for example Van Poucke and Buelens, 2002). Second, proposers know with certainty the actual size of the pie to be divided, while responders do not. Finally, and more importantly, while the proposer can break off the negotiation and look for another responder at any time, the responder has no such option. These three characteristics make the positions of the proposer and responder asymmetric, giving the former a strong role and the latter a weak one.

2.2 The Database

We have created a panel database that records the bargaining behavior in the TV show.⁵ For the analysis, we use bargaining behavior from 428 matchings between 134 proposers and 428 different responders.⁶ There are 73 female proposers (54%) and 61 male proposers (46%), and 157 female responders (37%) and 271 male responders (63%). The sample of proposers is balanced in terms of gender composition, but the sample of responders contains more men than women.⁷

The proposers introduce themselves briefly, providing their names, ages and occupations. In terms of occupation we identify those who are students, retired, and unemployed. We also classify proposers as having a low-level or high-level occupation.⁸ The responders only reveal their names, so we have no information on their ages and occupations. However, given that we have footage from the TV show, we have elicited subjective perceptions of the ages of both proposers and responders (a scale from 1 (below 30) to 6 (above 70)), socio-economic status (0 for medium-low, and 1 for medium-high) and attractiveness (using a scale between 0 (very unattractive) and 8 (very attractive)). We showed snapshots of all participants - both proposers and responders - to 10 different raters and averaged them.⁹ The instructions given to these

⁵We have saved all the original TV shows so the database can be replicated and recoded.

⁶There is a total of 437 matchings. Information from 9 bargaining matchings was dropped because the presenter made comments about the proposer's behavior, for example accusing the proposer of being stingy, which influenced both the bargaining outcome and behavior.

⁷A Chi-Square Goodness of Fit test does not reject the null hypothesis that the sample of proposers is representative in terms of gender (p -value 0.30), but it does reject it for the sample of responders (p -value 0.00).

⁸We follow the 2 digit classification used by the Spanish National Institute of Statistics (INS) and consider as low-level those occupations whose digits are strictly above 49, along with occupations in the armed forces. The low-level occupation variable includes occupations such as waiters and hairdressers. Accordingly, we consider as high-level those occupations whose digits are below 49. The high-level occupation variable includes occupations such as engineers and clerical jobs.

⁹Each rater evaluated 125 participants in about an hour and was rewarded with a fixed amount of 15 Euro. For proposers, five men and five women were recruited. For responders, if the responder was chosen by a male proposer then all 10 raters were male, while if the responder was chosen by a female proposer then all 10 raters were female. Since we have the proposers' real ages, we have computed the correlation between the real age and the perceived one. The result is 0.94, which confirms the validity of these ratings. In addition, given that we are using the average of the ratings, we have calculated the interim reliability scale (Cronbach's alpha), which gives a score of 0.99 for perceived age, 0.94 for

raters are available upon request.

We also recorded the pie to be shared, *Pie*, the stage at which the contestant is, *Stage*, and the deviation from the mean pie at each stage, (*Pie-Mean*) *by stage*.¹⁰ *Bargaining Time* refers to the time in seconds left for bargaining, where the maximum is three minutes. Finally, we classify each bargaining matching according to whether the question asked is perceived to be male, neutral or female (*Male Question*, *Neutral Question*, and *Female Question*). Remember that the contestant is asked a question whose answer he/she needs to buy in an alternating-offer bargaining. So the choice of the bargaining partner, and in particular the gender of the chosen bargaining partner, is influenced by whether the question is male or female. We gave the questions and answers to two different people, one a man and the other a woman, separately and asked them to classify the questions as male, neutral or female, in terms of how likely men and women are to give a correct answer.¹¹ Instructions received by these raters are available upon request.

[Table 1 here]

Panel A in Table 1 presents the mean values and standard deviations for all the demographic and control variables for the proposers and the demographic variables for responders, overall (column 1), and for female (column 2) and male (column 3) participants, separately. Column 4 in panel A reports the p -values for the F -Test of equality of variable means across genders. As the data show, the only significant difference between male and female proposers is that men are less attractive and more likely to hold a low-level occupation, while women are more likely to hold a high-level occupation. We control for all these characteristics when analyzing the behavior of socio-economic status and and 0.85 for attractiveness, confirming the alignment of raters on each of the variables.

¹⁰As is clear from the description of the TV show, the size of the pie increases proportionally from stage to stage, so these two variables are highly correlated (over 0.9). As we can not include both, pie and stage, we decided to control for the stage, which ranges from 1 to 4, and also for the deviation from the mean pie at each stage.

¹¹The raters initially agreed on their classification in 70% of questions. Among the questions over which they disagreed, all but 5 were questions that one rater classified as neutral but the other classified as male or female. After the initial perceptions of each rater were collected, they discussed the questions over which they disagreed face to face and reached an agreement on all of them.

proposers. For responders, the only significant difference is that female responders are more attractive than male responders.

The rest of the columns in panel A compare the characteristics separated by the gender combinations of the bargaining matches. With 73 female and 61 male proposers, and 157 female and 271 male responders, we end up with 139 female-male, 92 female-female, 65 male-female, and 132 male-male bargaining matchings. For proposers, this enables us to see whether male/female proposers who choose a male responder differ in their characteristics from male/female proposers who choose a female responder. Similarly, for responders, this enables us to see whether male/female responders who are chosen by male proposers differ in their characteristics from male/female responders who are chosen by female proposers. The most important variable is that of the male/neutral/female nature of the question. Around 70% of questions are classified as neutral, 16% as male and 16% as female. Male and female proposers do not show significant differences in being asked male or female questions, see p -values in column 4. More importantly, as expected, the male or female nature of the question significantly affects the gender choice of the bargaining partner. When asked a male question, contestants look for a male responder, but when faced with a female question they look for a female responder, see p -values in columns 7 and 10. We find no evidence of important differences in the rest of the variables, with two minor exceptions: female proposers who are students are more likely to choose male responders, and male responders who are chosen by male proposers are more attractive than those who are chosen by female proposers.

Panel B in Table 1 shows the descriptive statistics of all the outcome variables we analyze, overall (column 1) and for the gender combinations of the bargaining matches, respectively. The last column in panel B report the p -values for the F -Test of equality of variable means across all four gender matchings. We distinguish between variables that describe bargaining outcomes and bargaining behavior.

The main bargaining outcome variables of interest are *Prob. of No Agreement*, *Proposer's Outcome* and *No. of Rounds*.¹² *Prob. of No Agreement* is a dummy variable that takes the value of 1 if the proposer and the responder do not reach an agreement

¹²We have also considered an alternative measure for number of rounds, such as time elapsed since bargaining started. Results remain unchanged.

and 0 otherwise.¹³ Overall, only 12% of the negotiations failed (51 out of 428), while 88% of the time proposers and responders reached an agreement (377 out of 428). For the rest of the outcome variables, we restrict the sample to successful bargaining matchings (377 matchings). Proposers on average earn 367 Euro. Given that the size of the pie to be shared in successful negotiations averages 417 Euro, proposers take 88% of it.¹⁴ On average, successful negotiations take longer (about 4 rounds) than unsuccessful ones (about 3 rounds). The final column shows the p -value for the comparison between the four cases of different gender pairings. The matchings that prove most beneficial for the proposer are those between a male proposer and a female responder (404 Euro), while the lowest outcome for the proposer is in bargaining between two women (325 Euro). These differences, however, are not significant. Interestingly, only the number of rounds when the negotiation did not fail shows significant differences, with negotiations between male contestants being the fastest. Notice however that a priori important variables can differ significantly from one matching to another, e.g. the size of the pie. Regression analysis shows that controls are important to identify gender differences and gender interaction effects.

When analyzing bargaining behavior in successful negotiations, taking into account the panel structure of the database, we look at the offers made by the proposers (*Offers*), the demands made by the responders (*Demands*), and their respective probabilities of accepting (*Prob. Responder Accepts*, *Prob. Proposer Accepts*). Note that these are round by round data, so there are several observations per bargaining matching, as long as the negotiation took more than one round. Moreover, there are matchings that have no demands or offers, so one bargaining role remained silent. Therefore, the column for the number of observations includes both the round by round observations and, in parenthesis, the number of bargaining matchings. The average offer by proposers is

¹³As explained in Section 2.1, there are 2 possible cases in which bargaining partners do not reach an agreement. Either the proposer drops the negotiation to look for another possible responder, or the three-minute limit is reached while negotiating. The former is the most common case (96% of breakdowns), while the latter is very rare (4% of breakdowns).

¹⁴Shares of the pie and proportional offers and demands can be also analyzed. However, we decided to focus on absolute values (*Proposer's Outcome*, *Offers* and *Demands*) instead of relative ones for two main reasons: First, the pie varies significantly from matching to matching. It ranges between 100 Euro and 1600 Euro. Second, responders do not know the size of the pie, so they could not possibly care or negotiate in terms of shares of the pie.

34 Euro and the average demand is 105 Euro, with the probabilities of accepting being 14% by responders and 23% by proposers. Demands among different matchings show significant differences, demands from female responders to male proposers being the lowest, of about 60 Euro.

2.3 Research Questions and Identification Strategy

The database from the TV show enables us to answer two interesting research questions. First, we test whether male and female proposers differ in their choice of the gender of their bargaining partners. Second, we test for gender differences and gender interaction effects in bargaining. In other words, we do not only show the effect of the gender of the proposer and the responder on bargaining, but we also compare the four different gender combinations (male-female, female-male, male-male and female-female) to test for gender interaction effects in bargaining.¹⁵ Here, we distinguish between bargaining outcomes and bargaining behavior: bargaining outcomes include whether the bargaining fails to reach an agreement (*Prob. of No Agreement*), the bargaining outcome for the proposer (*Proposer's Outcome*), and the duration of the bargaining process (*No. of Rounds*). Bargaining behavior includes offers made by proposers (*Offers*), demands made by responders (*Demands*), and their respective probabilities of accepting (*Prob. Proposer/Responder Accepts*).

In particular, to test whether female and male proposers behave differently when choosing the gender of their bargaining partners, we estimate the following regression:

$$MaleResponder_j = \alpha + \beta MaleProposer_i + \gamma X_i + \epsilon_i \quad (1)$$

To test whether gender and gender interactions matter in explaining bargaining outcomes and behavior, we estimate the following regressions for gender differences and gender interactions, respectively:

$$Y_{ij} = \alpha + \beta_1 MaleProposer_i + \beta_2 MaleResponder_j + \gamma X_{ij} + \epsilon_{ij} \quad (2)$$

$$Y_{ij} = \alpha + \beta_1 Male_i Female_j + \beta_2 Female_i Male_j + \beta_3 Male_i Male_j + \gamma X_{ij} + \epsilon_{ij} \quad (3)$$

In studying the choice of the gender of the bargaining partner and bargaining outcomes we use the collapsed data at the responder level, given that these variables, and

¹⁵In all regressions the omitted category is female-female.

indeed the independent variables, remain constant round by round. We therefore have 428 matchings and observations for the *Male Responder* and *Prob. of No Agreement* dependent variables. For *Proposer's Outcome* and *No. of Rounds* we constrain the sample to the matchings that reached an agreement. This results in 377 matchings and observations. Given that the same proposer is matched with different responders, we always cluster the standard errors at the proposer level.

When analyzing bargaining behavior in successful negotiations, we exploit the panel structure of the database, i.e. we use the round by round bargaining data but specify the identification of the responder as the panel variable, and estimate a random effects model. We also cluster the standard errors at the proposer level.¹⁶

Two types of control are applied in all regressions: First there are control variables that refer to the proposers' and responders' socio-demographic characteristics. Second there are controls specific to the bargaining matching, such as the stage, variation in the pie within the stage and bargaining time. Finally, we also include controls specific to each dependent variable, such as controlling for previous offers when explaining the probability of the responder accepting.

3 Results

3.1 Choice of Bargaining Partner

Proposers choose responders to bargain with. This choice is limited in two important ways. First, proposers choose responders from among the people on the streets at the time of the TV show.¹⁷ Second, and more importantly, they make their choice under time pressure, as they have only three minutes to find a responder and negotiate a prize after they are given the question. Given these constraints, the choice of a responder

¹⁶When analyzing bargaining behavior with 0-1 outcome variables and exploiting the panel structure of the data, such as *Prob. Proposer Accepts*, *Prob. Responder Accepts*, we estimate a random effects probit model. In these cases, we use bootstrapped standard errors.

¹⁷Note that the availability of potential responders, and whether the available responder population shows a balanced gender composition, could be important factors. However, as the show took place in the main streets of large cities in Spain, we assume that the availability of people is not determinant and that the gender composition is balanced. Hence, these factors are not a concern in analyzing the choice of the gender of the bargaining partner.

seems more intuitive than meditated. It is, nevertheless, interesting to analyze the determinants of the gender of the responder chosen and in particular, whether male and female participants have different preferences for a particular gender of responder.

As seen above, although the sample of proposers is balanced in terms of gender, the sample of responders is not. In particular, there are significantly more male than female responders, which suggests that both male and female proposers show a preference for bargaining with men rather than with women. The over-representation of men in the responder sample is also consistent with women being more reluctant to participate in the show than men. However, given the actual gender composition of the samples of proposers and responders, the hypothesis that the existing gender combinations of the matchings are as expected under random matching cannot be rejected.¹⁸

[Tables 2 here]

We therefore study the determinants of the gender of the responder. In particular, we test whether the gender of the proposer has any effect on the gender of the responder chosen. In other words, we test whether male and female proposers have different preferences as regards the gender of responders. The results of this estimation are shown in Table 2. The first column shows the results with no controls, while the second column shows the results when controls are added.¹⁹

Once controls are added, evidence emerges that male participants have a stronger preference for male bargaining partners. Men are more likely to choose a male bargaining partner than women.²⁰ The stronger preference of male proposers for male

¹⁸With 73 female and 61 male proposers, and 157 female and 271 male responders, under random matching one would expect 147 female vs. male, 86 female vs. female, 74 male vs. female, and 125 male vs. male bargaining matchings. In the sample, we end up with 139 female vs. male, 92 female vs. female, 65 male vs. female, and 132 male vs. male actual bargaining matchings. The Chi-Square Goodness of Fit test cannot reject the null hypothesis that the gender matchings are as expected under random matching (p -value 0.34).

¹⁹Estimations with alternative specifications are shown in Table A1, in the Appendix. We also consider linear probability and logit estimation models (in columns 1 and 2, respectively). Alternatively, we also treat data as a panel, as we observe the same proposer matched with different responders, and estimate a random effects probit model (column 3). These three specifications yield results that are similar both qualitatively and quantitatively.

²⁰Note that this cannot be explained by any bias in the gender composition in the sample of available potential responders, as any limitation by this type should affect both male and female proposers equally.

responders may be explained by gender differences in preferences, such as taste-based discrimination (Becker, 1971) or, taking a more rational approach, may potentially be explained by gender differences in beliefs. First, men and women might have different beliefs about the likelihood of men and women knowing the correct answer. In particular, men might assign a higher probability than women to the notion of men knowing the correct answer. In the sample, we find no evidence that male and female responders are more/less likely to know the correct answer.²¹ Second, men and women might have different beliefs about the bargaining behavior of male and female responders. In particular, men may believe more strongly than women that male responders will be less aggressive in their bargaining behavior. As shown below, the bargaining outcomes coming from matchings between different genders indicate that this belief is not correct. Third, men and women might have also different beliefs about gender differences in the willingness to participate in the TV show as responders.

As expected, the most important determinant of the gender of the opponent is whether the question is perceived to be male or female (neutral being the omitted category). When presented with a male question (e.g. a sports related question), proposers look for men, while when presented with a female question (e.g. questions related to fashion or celebrities), proposers look for female responders. Furthermore, we have tested whether the male preference for male responders is independent of the perception (male/female/neutral) of the question, which is supported by the data.²² Also, attractive proposers are more likely to choose male responders. Further analysis shows that this is not different for male and female proposers.²³

From this analysis it is clear that responders are chosen by the proposers, and that male and female proposers show differences in the gender of their chosen bargaining partners. This yields an unbalanced sample of different gender combinations (male-

²¹Table A2, in the Appendix, shows that when we do not control for the male/neutral/female nature of the question, men are less likely to know the correct answer (significant at 10%), shown in column 1. However, once that feature is controlled for, men and women are equally likely to know the correct answer, shown in column 2. Furthermore, responders are less likely to get the correct answers to male questions.

²²When interacting *Male Proposer* with the *Male/Female Question*, the interactions are insignificant. These results are shown in column 4 of Table A1, in the Appendix.

²³When interacting *Male Proposer* with the *Proposer's Attractiveness*, the interaction is insignificant. These estimation results are shown in column 5 of Table A1, in the Appendix.

male, male-female, female-male and female-female matchings), and a biased sample due to selection (male proposers are more likely to choose male responders). Section 4 addresses these two problems by carrying out additional regression analysis. First, we carry out a regression with probability weights that correct the unbalanced sample. Second, we carry out regressions in a matched sample using probability score matching to address the selection problem. Third, we reject the underlying hypothesis that male and female responders chosen by male and female proposers differ in their observable characteristics. We show that the main results are sound and robust.

3.2 Outcome Variables: Probability of No Agreement, Proposer’s Outcome and Number of Rounds

Bargaining outcomes can be described by three main variables: First, whether the bargaining partners reach an agreement or not, summarized by *Prob. of No Agreement*; Second, by the amount of money agreed for the proposer, described by *Proposer’s Outcome*²⁴; and third, by the duration of the bargaining process, that is, the number of rounds (*No. of Rounds*).

Table 3 summarizes the regression results for these three outcome variables.²⁵ The first three columns look at the effect of the gender of the proposer and of the responder, while the last three columns also include the interaction between the gender of the bargaining partners. When estimating gender interaction effects we also include the *p*-values for the hypothesis test that conducts a pairwise comparison of the effects of different gender combinations, shown at the bottom of Table 3. We find neither gender difference nor gender interaction effects on the probability of no agreement and on the

²⁴Notice that analyzing the amount of money agreed for the proposer yields the same conclusions than analyzing the amount of money agreed for the responder.

²⁵For the variable *Prob. of No Agreement*, we show the estimation results using the probit model while for *No. of Rounds* we use a Poisson regression. We also consider alternative specifications, shown in Table A3, in the Appendix. For *Prob. of No Agreement* we consider linear probability and logit estimation models (shown in columns 1 and 2, respectively). For *No. of Rounds*, we also consider OLS, shown in column 5. For the three outcome variables, we also consider the data as a panel, as we observe the same proposer matched with different responders, and estimate a random effects model, shown in columns 3, 4 and 6, for *Prob. of No Agreement*, *Proposer’s Outcome*, and *No. of Rounds*, respectively. All these alternative specifications yield results that are both qualitatively and quantitatively the same.

duration of bargaining. In contrast, there are important differences in terms of earnings. Although there is no evidence for any gender difference in proposers and responders' behavior (column 2), we find that negotiations between male proposers and female responders result in about 11 Euro more for the proposer (column 5). Furthermore, as shown by the hypothesis tests, bargaining between men and women stands out as the most beneficial for proposers, compared to negotiations with any other gender combination. This means that while male proposers earn 3% more when negotiating with women than with men, female responders earn 22% less when negotiating with men than with women. This result shows that gender interactions are crucial: it is not just that men and women behave differently when bargaining but, more importantly, differences depend on the gender of the bargaining partner. Later analysis of gender differences and gender interaction effects in the bargaining process clarify whether this is due to male proposers discriminating against female responders, to female responders behaving differently when interacting with male proposers, or to a combination of both.

[Table 3 here]

Many controls are significant in explaining the bargaining outcomes. The first offer made by the proposer has been found to be an important determinant for bargaining outcomes, i.e. the quantity offered in the first round (see for example Van Poucke and Buelens, 2002).²⁶ We confirm that this is indeed an important determinant: the higher the first offer, the more likely it is that a successful agreement will be reached, the lower the proposer's outcome is and the shorter the negotiation is. Moreover in terms of the probability of there being no agreement, the longer the bargaining goes on the lower the probability of failure is. Also, those negotiations that have more time left are more likely to fail, given that the proposers have still time to find alternative responders. Interestingly, older proposers, those who hold low-level occupations, and students, are less likely to break up the bargaining. As expected, we find that the bigger the pie is –the higher the stage and the greater the deviations from the mean pie at each stage–, the bigger the outcome is for the proposer as the responders are unaware of the size of

²⁶The empirical literature on bargaining highlights 3 different internal reference points that affect bargaining outcomes: reservation prices, aspiration prices and opening offers. It has been found that they are all positively, strongly correlated, so opening offers -the only observable internal reference point in our database- may contain the effect of the other two internal reference points.

the pie. Interestingly, the coefficient of the deviation from the mean pie at each stage is close to 1, which suggests that the increases in the pie are absorbed by the proposer, who plays the strong role in bargaining given the information asymmetry regarding the size of the pie. Also, as expected, the more rounds there are the lower the outcome is for the proposer. When looking at the duration of the negotiation (*No. of Rounds*) it is found, as expected, that the longer bargaining goes on the more rounds there are; and the bigger the pie is, measured in terms of the different stages, the longer bargaining goes on. Finally, when proposers are unemployed or hold a low-level occupation the process is shorter.²⁷

Two control variables are of special interest. First, *Proposer Starts* describes how the negotiation starts, taking the value of 1 when it is the proposer who starts. Second, *Proposer Accepts* describes how the negotiation ends by taking the value of 0 when it is the responder who accepts the proposer's offer and 1 when it is the proposer who ends up accepting a responder's demand. Estimated coefficients show that initiating the negotiation pays off, while being the party who accepts the other's demand/offer does not. Further analysis, where we split the bargaining outcomes into those that end with the proposer accepting a responder's demand (202 cases out of 377), and those that end with the responder accepting a proposer's offer (175 cases out of 377) show that the difference found in the male-female interaction stems from those deals that end with proposers accepting responders' demands. This suggests that the bargaining outcome between male proposers and female responders is the most beneficial for proposers must be driven by females demanding less from male proposers rather than by male proposers offering less to female responders.

Three final remarks are noteworthy. First, the results shown in Table 3 are not driven by extremely high and low bargaining outcomes for the proposer. We have replicated the regressions on proposer's outcome deleting the 5% of highest and lowest outcomes, and the estimation results remain unchanged (results available upon request). Second, we have also considered other controls. In particular, we have controlled for whether the question is male or female, as one might consider situations in which a particular perception affects participants' bargaining power. We find that they are never significant, and more importantly, the results on the gender interactions of

²⁷The control *Retired* cannot be estimated in columns 1 and 4 because it turns out *Retired* predicts perfectly whether the negotiations ended successfully or not.

Table 3 remain unchanged (results available upon request). Third, given that gender interaction effects and the hypothesis testing shown at the end of the tables also inform about gender differences, from now on we only show the gender interaction effect regressions.

3.3 Bargaining Behavior: Offers, Demands, and Probabilities of Accepting

We now analyze bargaining behavior regarding offers, demands and the likelihood of accepting them.²⁸ In an alternating-offer bargaining round the proposer starts with an offer, which can be accepted or rejected by the responder. If the responder rejects the offer, he/she can respond with a demand, which may then be accepted or rejected by the proposer. This type of bargaining round can be repeated until an agreement is reached. Hence, the variables of interest in this section are offers, demands, and their likelihood of being accepted by responders and proposers. We analyze offers, and probabilities of responders accepting offers in two separate regressions, one for the first round and the other for subsequent rounds. Opening offers are exogenous and cannot be influenced by interaction with the responder, as they come first. Furthermore, they are important determinants of subsequent behavior in bargaining. We therefore decided to show the regressions for the opening offer and the remaining offers separately. For the rest of the variables, we test whether behavior in the first and subsequent rounds is indeed different. This analysis leads us to show regression analysis for the likelihood of responders accepting separately for initial and subsequent offers, but not for demands and the likelihood of proposers accepting demands.

²⁸We have also analyzed gender differences and gender interaction effects in the use of different bargaining strategies, available in Table A4 in the Appendix. We classify four types of bargaining strategy: First, one can actively make offers or demands or remain passively silent and wait for the other person to do so. Active bargaining strategies can then be classified into increasing, decreasing or maintaining offers/demands from round to round. We find no gender differences or gender interaction effects in remaining silent when bargaining in either role. Interestingly, we find that men are more likely to increase their offers from round to round, while women are more likely to stick to an offer. We find neither gender differences nor gender interaction effects in the use of bargaining strategies among responders. Nevertheless, these findings are not enlightening the main result found in male-female matching being the most beneficial for proposers and the least for the responders.

[Table 4 here]

Table 4 shows the results for offers (columns 1 and 2), for the likelihood of responders accepting them (columns 3 and 4), for demands (column 5) and for the likelihood of proposers accepting them (column 6).²⁹

We start by looking at the offers made by proposers and the likelihood of responders accepting them. Opening offers (column 1) do not show any significant gender-related effect. This is in sharp contrast with the findings of other authors, e.g. by Dittrich et al. (2014), who report that offers from men to women are lower. Moreover, the signs suggest, consistently with previous literature, that women are more likely to accept an offer in the first round when it comes from a male proposer (column 3), but the differences are not statistically significant. Regarding offers and likelihood of responders accepting them in subsequent rounds (columns 2 and 4), once initial offers and past demands are controlled for, show no evidence of important gender differences nor gender interaction effects. Two minor differences can be mentioned. First, regarding offers, men offer to female responders about 5 Euro less than female proposers do, although it is significant at the 10%. Second, regarding responders' likelihood of accepting the offers, offers made by male proposers are less likely to be accepted by female responders.

We now turn our attention to demands and the likelihood of proposers accepting a given demand. We find one important gender interaction effect. Consistent with our findings when looking at raw mean values in demands (Table 1, Panel B), the matching that shows a difference in behavior is again that of a male proposer and a female responder (column 5 in Table 4). Women's demands differ depending on whether they are interacting with a male or a female proposer. When conveying a demand to a male proposer, women demand about 63 Euro less. We find no differential behavior when looking at the likelihood of accepting demands (column 6).

²⁹Table A5 shows the estimation results for alternative specifications. For *Offers* in subsequent rounds, column 1 shows the OLS estimation results using collapsed data (RE model yields the same estimates). Columns 2 and 3 show the probit and RE probit, respectively for *Prob. Responder Accepts*. For *Demands*, Column 4 shows the OLS estimation results using the collapsed data (RE model yields the same estimates). Finally, for *Prob. Proposer Accepts*, columns 5 and 6 show the probit and RE probit model estimation results, respectively. As shown by the estimation results, the magnitudes are slightly lower, due to collapsing the data, and the weak result on offers loses significance. More importantly, the result on demands is robust and sound.

All controls go in the expected directions. First, negotiations in which there is more time left have lower offers and are less likely to be accepted initially. Also, on the one hand negotiations that last longer have lower offers and higher demands, but on the other hand the more advanced a negotiation is the higher the offers are.³⁰ Third, as expected, the higher (lower) the offers (demands) are, the more likely it is that they will be accepted by the responder (proposer). Moreover, the higher the opening offer by the proposer the more likely he/she is to accept responders' demand. Also, the opening offer is an important determinant for subsequent offers, and previous offers positively affect subsequent demands. Fourth, past demands also prove important in explaining offers.³¹ Furthermore some non-linearities appear, as the squared term is also significant.³² Finally, and interestingly, the size of the pie to be divided up, measured through the stage variable, is positively related to offers and demands. This finding is not totally intuitive. Note that responders do not know how big the pie is, so proposers could pretend to be at the first stage in all negotiations, and offers should not therefore depend on the size of the pie. However, proposers do adjust their offers to the size of the pie, and consequently responders do adjust their demands to the proposers' offers. Finally, regarding socio-demographics, responder' perceived status seem to be positively correlated with demands.

Four comments must be made. First, the main effect is observed when male contestants act as proposers, which is the strong role, and female participants act in the role of responders, which is the weak role. Second, this effect is sizable. As the average demand in a female-female matching is 113 Euro, female responders demand about

³⁰For the analysis of *Offers* and *Demands* we include both the total number of rounds and round variables as controls. Note that *No. of Rounds* measures the difference in rounds between different bargaining processes, while the *Round* variable measures the variation within the same process. For offers, the determinant variable is *Round*, while for demands it is *No. of Rounds*. For the likelihood of accepting we cannot have them both so we include only *Round*.

³¹Note that for responders' demands and the likelihood of proposers accepting, the control *Offers* includes all offers round by round, including those made in round 1, which affect demands and the likelihood of proposers accepting in round 1 and subsequent ones, which affect responders' and proposer's behavior in later rounds.

³²Although past demands affect current offers, the existence of non-linearities makes the relation between demands and offers ambiguous. Thus we cannot ensure whether the fact that female responders demand less from male proposers aggravates the situation of these female responders receiving even lower offers.

55% less from male proposers. Third, differential behavior depending on gender is not initiated by the proposer’s opening offers but by the responder’s demands. We can therefore directly relate this result with the difference found in earnings obtained from bargaining. Male proposers bargaining with female responders being the most beneficial for proposers is explained by female responders demanding less from male proposers. Finally, further analysis on subsequent offers suggests that when there is a previous demand, the weak effect we found in column 2 becomes slightly stronger, while when there is no previous demand, that is, when they reject an offer but post no demand (remain silent), we find no evidence of any gender difference.³³ This further confirms that the difference in bargaining outcomes is driven by differences in demands.

4 Robustness Tests: Unbalancedness and Selection

Contrary to what would occur in a perfectly randomized setting, in our setting proposers and responders are not randomly matched: proposers choose their bargaining partners. Section 3.1 above shows that although both male and female proposers are more likely to choose male bargaining partners, male proposers show a stronger preference for male bargaining partners. This results in an unbalanced sample of different gender matchings and in a selection problem. In this section we perform three robustness tests that address these issues, focusing on the three main bargaining outcome variables (*Prob. of No Agreement, Proposer’s Outcome, No. of Rounds*). Columns 1, 4, and 7 in Table 5 replicate columns 4-6 in Table 3.

First, as can be seen clearly in panels A and B of Table 1, the different gender combinations in the matched partners are represented in an unbalanced way. In particular, female-male and male-male matchings are over-represented while male-female and female-female matchings are under-represented. We carry out regressions that weight each observation within each gender combination by the inverse of its probability in the sample. The idea behind this analysis is to weight each observation within each matching with a view to balancing the sample in terms of the different match-

³³Notice that opening offers and opening demands play quite different roles in our database. First, very few interactions start with a demand rather than an offer (20 out of 377), so opening offers are the real starting point of bargaining, while demands come after the first offer has been rejected.

ings.³⁴ Estimation results shown in Table 5 (columns 2, 5 and 8) show that the results are the same in both quantitative and qualitative terms.

Second, we perform a regression analysis on a matched sample using probability score matching (see Rosenbaum and Rubin, 1985, and Caliendo and Kopeinig, 2008, for a practical guide). As there are fewer women in the sample of responders, we define our treatment variable as having a female responder and we estimate the probability score using the regression shown in Table 2.³⁵ We then use the nearest neighbor matching method to match the sample of female responders to that of male responders, such that they have similar propensity scores. The distributions of probability scores for proposers choosing a male and female responder, both for the unmatched and matched samples, are shown in Figure 1.³⁶ We carry out the regression analysis within the matched sample only. Results are shown in Table 5 (columns 3, 6 and 9).³⁷ As expected, some observations are lost when the analysis is restricted to the matched sample, as some observations cannot be matched. More importantly, the results remain both quantitatively and qualitatively the same. In particular the effect on the main bargaining outcome, *Proposer's Outcome*, remains positive, significant, and very similar in size.

Third, given we observe important characteristics of both proposers and responders, we can also check how male proposers who choose female responders differ from male proposers who choose male responders, and how female responders who are chosen

³⁴This approach is successful as long as the coefficient of *Male Proposer* is insignificant when we regress the gender of the responder on that of the proposer, and the constant is 0.5.

³⁵We eliminate the independent variables that have to do with the male/female nature of the questions, as they cannot possibly influence the outcome variables of *Prob. of No Agreement*, *Proposer's Outcome* and *No. of Rounds*.

³⁶As expected, if we replicate the analysis on Table 2 on the matched sample, we find that the only determinant of the responder's gender is given by the male/female perception of the question. Furthermore, when replicating Panel A of Table 1 on the matched sample all significant differences within all matchings disappear with the exception of the effect of the question's perception. These results are available upon request.

³⁷The results shown in Table 5 use matchings without replacement. We also used matching with replacement: Compared to those without replacement for the *Proposer's Outcome*, the outcome for male-female matchings is not significantly different from that male-male matchings, and for the *No. of Rounds*, the male-male matching takes significantly shorter than the female-female matching. It is known that standard errors increase with replacement, which lowers the significance of some results.

by male proposers differ from female responders who are chosen by female proposers. Columns 8 to 10 in panel A of Table 1 present a comparison of male proposers and clearly show that those who happen to choose a male responder do not differ significantly from those who happen to select a female responder. A similar comparison of female responders in columns 5 to 7 in panel A of Table 1 clearly shows that female responders who happen to be chosen by male proposers do not differ from female responders who are chosen by female proposers. Finally, an examination of the analysis in the matched sample shows that the minor differences in all the characteristics of both the proposers and the responders that appear in Panel A of Table 1 become insignificant when all four different matchings are compared. This further confirms that the results are not driven by male proposers who choose a female responder being of a particular type, or by female responders chosen by a male proposer being of a particular type, but by women in the role of responders demanding less from men in the role of proposers. Nevertheless, as we mentioned in the introduction, we cannot rule out selection based on characteristics that are unobservable.

5 Conclusions

We use bargaining behavior in a TV show, where proposers choose individuals to bargain with, to study gender differences in the choice of bargaining partners, and gender differences and gender interaction effects in negotiations involving sizable stakes.

We find evidence that men show a stronger preference for male bargaining partners. This is consistent with taste-based discrimination but also with gender differences in beliefs. First, men might put more weight on the probability that men know the correct answer. Second, men might put more weight on the notion that they will get better deals when negotiating with men. Future work should be guided to distinguish between these hypotheses. Third, men might put more weight on the notion that women will be more reluctant to participate in a TV show.

Moreover, we find significant gender interaction effects in both bargaining behavior and bargaining outcomes. The male-female matching is found to be different from all the others. Contrary to the findings in previous publications, we find no evidence of differences in opening offers between male and female proposers or male and female responders. More importantly, it is women who demand less from male proposers.

These results cannot be explained by selection, as male proposers who choose female responders do not differ from male proposers who choose male responders; nor do female responders who are chosen by male proposers differ significantly from female responders who are chosen by female proposers.

Three main conclusions can be drawn: First, gender interaction effects have proved to be crucial in understanding gender differences. Women demand less *only from men*. All these differences result in negotiations that are more favorable to men and less favorable to women when men negotiate with women. Second, we find no differential behavior in opening offers. Third, the most relevant gender differential results are found in the behavior of responders, who hold what is a priori a weaker position in this setting. Accordingly, it is only when men take the role of the strong player (the proposer) and women the role of the weak player (the responder) that strong gender differences are found. This result highlights the importance of the role played in bargaining. Dittrich et al. (2014), using an employer-employee setting, and Andersen et al. (2014), using a seller-buyer framing, also find gender interaction effects and gender differences, respectively, that depend on the roles played. Future work should be directed at understanding the *interaction* between gender interaction effects and the role played in bargaining.

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Table 1. Descriptive Statistics
Panel A. Proposers and Responders

Proposers	Overall	Female	Male	p-value	Female-Male	Female-Female	p-value	Male-Male	Male-Female	p-value
Obs.	134	73 (54%)	61 (46%)		139	92		132	65	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Age	34.37 (13.45)	33.08 (13.12)	35.90 (13.8)	0.23	31.55 (11.97)	33.24 (12.49)	0.30	34.63 (12.07)	35.88 (13.73)	0.52
Student	0.19 (0.39)	0.23 (0.42)	0.13 (0.34)	0.13	0.31 (0.46)	0.16 (0.37)	0.01	0.11 (0.32)	0.14 (0.35)	0.62
Retired	0.05 (0.22)	0.07 (0.25)	0.03 (0.18)	0.36	0.06 (0.23)	0.05 (0.23)	0.92	0.02 (0.12)	0.06 (0.24)	0.08
Unemployed	0.09 (0.29)	0.07 (0.25)	0.11 (0.32)	0.35	0.08 (0.27)	0.07 (0.25)	0.69	0.14 (0.35)	0.08 (0.27)	0.18
Low-Level Occupation	0.35 (0.48)	0.23 (0.42)	0.49 (0.5)	0.00	0.19 (0.4)	0.27 (0.45)	0.17	0.45 (0.5)	0.45 (0.5)	0.99
High-Level Occupation	0.32 (0.47)	0.40 (0.49)	0.23 (0.42)	0.04	0.36 (0.48)	0.45 (0.5)	0.19	0.28 (0.45)	0.28 (0.45)	0.96
Perceived Age	2.41 (1.13)	2.32 (1.16)	2.51 (1.09)	0.34	2.15 (1.06)	2.35 (1.12)	0.17	2.35 (1.02)	2.63 (1.02)	0.08
Perceived Status	0.36 (0.24)	0.38 (0.23)	0.35 (0.26)	0.47	0.41 (0.23)	0.38 (0.22)	0.36	0.35 (0.27)	0.41 (0.24)	0.10
Perceived Attractiveness	3.44 (1.37)	3.92 (1.35)	2.87 (1.18)	0.00	4.14 (1.32)	3.91 (1.32)	0.19	3.01 (1.2)	2.77 (1.05)	0.18
Pie	345.84 (186.23)	337.39 (189.45)	355.95 (183.35)	0.57	421.05 (425.52)	366.68 (387.49)	0.33	385.46 (397.67)	445.75 (429.45)	0.33
(Pie-Mean) by Stage	-0.80 (18.58)	0.16 (19.90)	-1.96 (16.96)	0.51	-0.83 (36.45)	3.74 (17.58)	0.26	-1.20 (22.07)	-1.08 (25.93)	0.97
Stage	1.93 (0.53)	1.90 (0.53)	1.97 (0.52)	0.42	2.14 (1.02)	1.98 (0.99)	0.25	2.05 (1)	2.25 (1.02)	0.21
Bargaining Time	103.82 (27.54)	104.34 (31.52)	103.20 (22.08)	0.81	110.96 (47.09)	107.34 (47.52)	0.57	105.05 (48.18)	100.82 (44.2)	0.55
Male Question	0.16 (0.23)	0.17 (0.23)	0.14 (0.23)	0.55	0.26 (0.44)	0.03 (0.18)	0.00	0.21 (0.41)	0.05 (0.21)	0.00
Neutral Question	0.68 (0.32)	0.70 (0.31)	0.67 (0.33)	0.63	0.68 (0.47)	0.73 (0.45)	0.40	0.68 (0.47)	0.62 (0.49)	0.36
Female Question	0.16 (0.24)	0.13 (0.23)	0.19 (0.24)	0.22	0.06 (0.25)	0.24 (0.43)	0.00	0.11 (0.31)	0.34 (0.48)	0.00

Responders	Overall	Female	Male	p-value	Male-Female	Female-Female	p-value	Male-Male	Female-Male	p-value
Obs.	428	157 (37%)	271 (63%)		65	92		132	139	
Perceived Age	2.80 (1.17)	2.70 (1.15)	2.86 (1.18)	0.20	2.75 (1.14)	2.67 (1.16)	0.65	2.96 (1.19)	2.76 (1.18)	0.17
Perceived Status	0.45 (0.27)	0.45 (0.26)	0.44 (0.28)	0.81	0.47 (0.27)	0.44 (0.25)	0.47	0.45 (0.28)	0.43 (0.27)	0.55
Perceived Attractiveness	3.17 (1.19)	3.63 (1.26)	2.90 (1.07)	0.00	3.54 (1.5)	3.69 (1.07)	0.47	3.05 (1.07)	2.76 (1.05)	0.02

Notes: The table shows the mean values and the standard deviations of the main outcome and control variables. *Age* describes the age in years. *Student*, *Retired*, *Unemployed*, *Low-Level Occupation* and *High-Level Occupation* take the value of 1 when the proposer is a student, retired, unemployed and holding a low and high occupation, respectively. *Perceived Age*, *Perceived Status* and *Perceived Attractiveness* are elicited measures of age, status and attractiveness, in a scales between, 1 (below 30) to 6 (above 70), 0 (medium-low) and 1 (medium high), and 0 (very unattractive) to 8 (very attractive), respectively. *Pie* refers to the amount in euro to bargain over. *Stage* refers to the number of stage and can take values between 1 and 4. *(Pie-Mean) by stage* shows the deviation of the pie by stage. *Bargaining Time* summarizes the time left in seconds for the bargaining. Finally, *Male/Neutral/Female question* take the value of 1 when the question is classified as male, neutral and female. The *p*-value are for the F-Test of equality of variable means across gender.

Table 1. Descriptive Statistics

Panel B. Outcome Variables

	Obs.	Overall	Female-Male 139 cases (32%)	Female-Female 92 cases (21%)	Male-Female 65 cases (15%)	Male-Male 132 cases (31%)	p-value
		(1)	(2)	(3)	(4)	(5)	(6)
Bargaining Outcomes:							
Prob. of No Agreement	428	0.12 (0.32)	0.10 (0.30)	0.15 (0.36)	0.06 (0.24)	0.14 (0.35)	0.24
Proposer's Outcome	377	367.14 (394.09)	378.29 (404.99)	325.31 (354.89)	403.59 (418.33)	364.02 (396.69)	0.68
No. of Rounds (when agreement)	377	3.58 (2.12)	3.72 (2.31)	3.81 (2.06)	3.77 (2.2)	3.16 (1.86)	0.09
No. of Rounds (when no agreement)	51	2.71 (1.12)	2.57 (0.94)	2.71 (1.33)	2.75 (1.50)	2.79 (1.08)	0.96
Bargaining Behavior when agreement:							
Offers	1283 (376)	34.11 (36.96)	35.62 (38.53)	33.25 (34.05)	29.90 (23.05)	35.63 (43.88)	0.23
Prob. Responder Accepts	1283 (376)	0.14 (0.34)	0.14 (0.34)	0.13 (0.34)	0.10 (0.30)	0.17 (0.37)	0.16
Demands	871 (321)	105.31 (182.85)	127.64 (200.86)	112.96 (247.37)	60.23 (40.09)	100.99 (142.11)	0.00
Prob. Proposer Accepts	871 (321)	0.23 (0.42)	0.22 (0.42)	0.21 (0.40)	0.25 (0.43)	0.25 (0.44)	0.62

Notes: The table shows the mean values and the standard deviations of the main outcome variables. *Prob. of No Agreement* takes the value of 1 when the bargaining partners do not reach an agreement and 0 otherwise. *Proposer's Outcome* refers to the amount in euro agreed for the proposer and *No. of Rounds* summarizes the duration of the bargaining process. *Offer* and *Demand* refer to the offers and demands in euro by the proposer and responder, respectively, and *Prob. Responder(Proposer) Accepts* take the value of 1 when an offer(demand) is accepted and 0 otherwise. The *p*-value are for the F-Test of equality of variable means across gender combinations.

Table 2. Choice of the Sex of the Responder

	Prob. Male Responder (1)	Prob. Male Responder (2)
Male Proposer	0.0683 (0.0543)	0.136*** (0.0527)
Age Proposer		0.00222 (0.00333)
Student Proposer		0.108 (0.0746)
Retired Proposer		-0.124 (0.189)
Unemployed Proposer		0.138* (0.0742)
Low-Occupation Proposer		0.00293 (0.0681)
Perc. Attractiveness Proposer		0.0534** (0.0261)
Perc. Status Proposer		-0.151 (0.124)
(Pie-Mean) by Stage		-0.000261 (0.000789)
Stage 2		-0.00450 (0.0562)
Stage 3		-0.0469 (0.0546)
Stage 4		0.0386 (0.0733)
Remaining Time		0.000529 (0.000471)
Male Question		0.302*** (0.0520)
Female Question		-0.285*** (0.0626)
Observations	428	428

Notes: The dependent variable takes the value 1 if the selected responder is male and 0 otherwise. The table shows the marginal effect values of the coefficients using the probit model. The control variables are described in the notes of Table 1. Clustered standard errors at the proposer level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3. Gender Differences and Gender Interaction Effects in Bargaining Outcomes

	Prob. No Agreement (1)	Proposer's Outcome (2)	No. of Rounds (3)		Prob. No Agreement (4)	Proposer's Outcome (5)	No. of Rounds (6)
Male Proposer	0.0218 (0.0285)	1.899 (3.641)	-0.313 (0.230)	MF	-0.0447 (0.0397)	10.78*** (3.822)	-0.177 (0.337)
Male Responder	0.00286 (0.0315)	-3.873 (3.111)	-0.192 (0.248)	FM	-0.0397 (0.0384)	2.995 (3.689)	-0.0868 (0.332)
				MM	0.0160 (0.0389)	-0.523 (5.037)	-0.476 (0.305)
Age Proposer	-0.00764*** (0.00252)	0.170 (0.236)	0.00990 (0.0130)	Age Proposer	-0.00767*** (0.00253)	0.199 (0.239)	0.0102 (0.0130)
Student Proposer	-0.0641* (0.0367)	6.204 (4.888)	0.520 (0.351)	Student Proposer	-0.0553 (0.0377)	5.251 (4.636)	0.500 (0.356)
Retired Proposer		-3.331 (9.903)	-0.754 (0.543)	Retired Proposer		-5.042 (9.842)	-0.981*** (0.325)
Unemployed Proposer	0.0567 (0.0833)	-5.383 (11.28)	-0.984*** (0.325)	Unemployed Proposer	0.0618 (0.0838)	-5.153 (11.34)	-0.447* (0.262)
Low-Occup. Proposer	-0.0664** (0.0315)	-2.643 (4.474)	-0.451* (0.262)	Low-Occup. Proposer	-0.0621* (0.0320)	-2.545 (4.456)	-0.771 (0.543)
Perc. Status Proposer	0.145* (0.0831)	7.265 (6.479)	0.886* (0.530)	Perc. Status Proposer	0.160* (0.0820)	4.834 (6.654)	0.849 (0.538)
Perc. Attractiveness Proposer	-0.00758 (0.0131)	0.442 (1.275)	-0.153 (0.103)	Perc. Attractiveness Proposer	-0.00930 (0.0130)	0.708 (1.278)	-0.148 (0.104)
Perc. Age Responder	-0.00309 (0.0158)	4.311** (1.848)	-0.0310 (0.110)	Perc. Age Responder	-0.00596 (0.0156)	4.729** (1.888)	-0.0241 (0.112)
Perc. Status Responder	-0.0966 (0.0592)	-13.91** (6.752)	0.208 (0.413)	Perc. Status Responder	-0.0924 (0.0588)	-15.14** (6.607)	0.189 (0.414)
Perc. Attractiveness Responder	0.00468 (0.0173)	3.255 (2.011)	0.0933 (0.113)	Perc. Attractiveness Responder	0.00163 (0.0176)	3.981* (2.046)	0.105 (0.113)
(Pie-Mean) by Stage	0.00122 (0.000788)	1.206*** (0.0998)	-0.00167 (0.00323)	(Pie-Mean) by Stage	0.00110 (0.000791)	1.212*** (0.0999)	-0.00157 (0.00327)
Stage 2	-0.0249 (0.0332)	164.8*** (3.245)	0.492* (0.271)	Stage 2	-0.0211 (0.0323)	164.9*** (3.254)	0.494* (0.271)
Stage 3	-0.0426 (0.0374)	415.4*** (4.124)	0.958*** (0.292)	Stage 3	-0.0356 (0.0366)	415.1*** (4.097)	0.950*** (0.289)
Stage 4	-0.0854** (0.0361)	1,319*** (8.550)	1.780*** (0.600)	Stage 4	-0.0800** (0.0371)	1,318*** (8.599)	1.766*** (0.595)
Remaining Time	0.000663** (0.000280)	0.0829* (0.0478)	0.00601** (0.00242)	Remaining Time	0.000653** (0.000274)	0.0835* (0.0470)	0.00602** (0.00242)
No. Of Rounds	-0.0307*** (0.00786)	-7.214*** (1.028)		No. Of Rounds	-0.0298*** (0.00765)	-7.263*** (1.039)	
First Round Offer	-0.00204* (0.00120)	-1.116*** (0.214)	-0.0485*** (0.00893)	First Round Offer	-0.00211* (0.00120)	-1.108*** (0.211)	-0.0483*** (0.00883)
Proposer Starts		19.32*** (6.723)	0.925** (0.404)	Proposer Starts		19.12*** (6.930)	0.920** (0.404)
Proposer Accepts		-11.11*** (3.330)		Proposer Accepts		-11.41*** (3.324)	
Constant		62.36*** (17.77)		Constant		54.92*** (19.21)	
Observations	428	377	377	Observations	428	377	377
R-squared		0.994		R-squared		0.994	
				H_0 : MF=FM	0.91	0.05	0.79
				H_0 : MF=MM	0.18	0.02	0.33
				H_0 : FM=MM	0.13	0.50	0.17

Notes: The dependent variables refer to: *the Prob. of No Agreement*, which takes the value of 1 when the bargaining partners do not reach an agreement and 0 otherwise (column 1 and 3); *Proposer's Outcome*, which summarizes the outcome in euro obtained by the proposer from the bargaining (columns 2 and 4); and *No. of Rounds* describes the duration of the bargaining process (columns 3 and 6). *First Round Offer* summarizes the offer in euro made in the very first round. *Proposer Starts* is a dummy variable that takes the value of 1 when the bargaining starts with the proposer making an offer, and 0 otherwise. *Proposer Accepts* is a dummy variable that takes the value of 1 when the bargaining ends with the proposer accepting responder's demand, and 0 otherwise. Columns 1 and 4 show the marginal effect values of the coefficients using the probit model. Columns 2 and 5 show the coefficients for OLS and columns 3 and 6 show the marginal effect values of the coefficients using the Poisson regression model. At the bottom, *p*-values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Clustered standard errors at the proposer level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4. Gender Interaction Effects in Offers, Demands and Probabilities of Acceptance

	Opening Offers (round=1) (1)	Offers (round>1) (2)	Prob. Responder Accepts (round=1) (3)	Prob. Responder Accepts (round>1) (4)	Demands (5)	Prob. Proposer Accepts (6)
MF	-0.874 (2.872)	-4.706* (2.768)	0.0968 (0.0656)	-0.0515 (0.0545)	-62.92*** (22.77)	0.00631 (0.08892)
FM	-0.214 (1.666)	-3.051 (2.435)	0.0794 (0.0573)	0.00532 (0.0471)	2.403 (17.79)	0.0189 (0.0731)
MMM	0.433 (2.489)	-0.157 (3.748)	0.0742 (0.0517)	0.0617 (0.0492)	-9.280 (18.88)	0.0629 (0.0911)
Age Proposer	-0.00507 (0.0911)	-0.206 (0.160)				0.000599 (0.00322)
Student Proposer	1.176 (2.524)	-2.296 (2.787)				-0.0520 (0.0768)
Retired Proposer	-2.508 (3.933)	9.445 (7.326)				0.0222 (0.147)
Unemployed Proposer	2.978 (2.758)	15.75 (12.49)				0.114 (0.147)
Low-Occup. Proposer	3.273 (2.453)	2.941 (2.397)				0.0749 (0.798)
Perc. Age Proposer			-0.0136 (0.0123)	-0.0150 (0.0162)	-3.556 (5.335)	
Perc. Status Proposer	6.448 (3.963)	-7.363* (4.289)	-0.0517 (0.0532)	-0.00806 (0.0682)	9.752 (26.66)	-0.124 (0.137)
Perc. Attractiveness Proposer	0.462 (0.806)	0.235 (0.837)	-0.00583 (0.0106)	0.00636 (0.0148)	-12.55* (6.595)	0.00321 (0.0176)
Perc. Age Responder	-1.356* (0.739)	-1.529 (1.245)	0.0180 (0.0133)	0.0151 (0.0181)	-4.351 (7.875)	-0.0240 (0.0301)
Perc. Status Responder	3.120 (2.817)	4.661 (4.462)	-0.00650 (0.0415)	0.0283 (0.0702)	64.48** (25.06)	-0.0216 (0.108)
Perc. Attractiveness Responder	0.621 (0.856)	-1.216 (1.213)	0.00787 (0.0128)	0.0113 (0.0181)	-12.34 (8.649)	-0.0404 (0.0375)
(Pie-Mean) by Stage	-0.218*** (0.0496)	-0.0230 (0.0523)	0.00164* (0.000841)	0.000450 (0.000450)	0.0800 (0.250)	-0.000563 (0.00124)
Bargaining Time	-0.00484 (0.0160)	-0.0978*** (0.0351)	-0.000907*** (0.000280)	-0.000390 (0.000347)	-0.201 (0.195)	-0.000446 (0.000638)
No. of Rounds	-1.637*** (0.303)	-1.094** (0.492)			29.39*** (6.832)	
Round		8.425*** (1.407)		0.0235 (0.0160)	-7.185 (15.85)	0.0851* (0.0442)
Demand at Current Round						-0.00333** (0.00188)
Previous Demand		0.0834*** (0.0281)				
(Previous Demand) ²		-4.57e-05** (1.95e-05)				
First Round Offer		1.277*** (0.223)				0.00928** (0.00403)
Offer at Current Round			0.00381*** (0.000959)	0.000215 (0.000679)	0.977*** (0.234)	
Proposer Starts		-18.22*** (5.396)		-0.121** (0.0679)	-13.62 (21.61)	-0.0573 (0.138)
No Previous Demand					57.94** (24.12)	-0.0414 (0.0549)
Constant	11.40* (6.648)	29.03** (14.58)			13.31 (53.48)	
Controls for Stage	YES	YES	YES	YES	YES	YES
Observations	357	926	357	926	871	871
R-squared	0.429					
Number of Responders	357	316	357	316	321	321
H_0 : MF=FM	0.79	0.59	0.74	0.29	0.00	0.89
H_0 : MF=MM	0.47	0.24	0.61	0.02	0.01	0.53
H_0 : FM=MM	0.74	0.50	0.90	0.16	0.50	0.60

Notes: The dependent variable *Offers* refer to the offers in euro made by the proposer (columns 1 and 2); *Prob. Responder Accepts* takes the value of 1 when the responder accepts the offer made by the proposer and 0 otherwise (columns 3 and 4); *Demands* refer to the demands in euro made by the responder (column 5); and *Prob. Proposer Accepts* takes the value of 1 when the proposer accepts the demand made by the responder and 0 otherwise (column 6). Columns 3, 4, and 6 show the marginal effects of the coefficients using the probit model. Except for round 1 regressions (column 1 and 3), we use random effects model. At the bottom, p -values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Clustered standard errors at the proposer level (columns 1, 2, 3 and 5) and bootstrapped standard errors (columns 4 and 6), in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5. Robustness Tests: Gender Interaction Effects in Bargaining Outcomes

	Prob. No Agreement	Weights Prob. No Agreement	Matched Sample Prob. No Agreement	Proposer's Outcome	Weights Proposer's Outcome	Matched Sample Proposer's Outcome	Number of Rounds	Weights Number of Rounds	Matched Sample Number of Rounds
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
MF	-0.0447 (0.0397)	-0.0475 (0.0365)	-0.0485 (0.0382)	10.78*** (3.822)	10.41*** (3.591)	8.988** (3.600)	-0.177 (0.337)	-0.236 (0.338)	-0.237 (0.350)
FM	-0.0397 (0.0384)	-0.0328 (0.0367)	-0.0403 (0.0385)	2.995 (3.689)	3.217 (3.637)	0.524 (3.990)	-0.0868 (0.332)	-0.0565 (0.339)	0.00804 (0.367)
MM	0.0160 (0.0389)	0.0158 (0.0380)	0.0111 (0.0396)	-0.523 (5.037)	-0.208 (4.886)	-0.479 (5.260)	-0.476 (0.305)	-0.522* (0.304)	-0.694** (0.343)
Age Proposer	-0.00767*** (0.00253)	-0.00804*** (0.00240)	-0.00816*** (0.00264)	0.199 (0.239)	0.111 (0.203)	0.178 (0.190)	0.0102 (0.0130)	0.00705 (0.0144)	0.00762 (0.0154)
Student Proposer	-0.0553 (0.0377)	-0.0704** (0.0343)	-0.0867** (0.0354)	5.251 (4.636)	4.728 (4.266)	4.404 (5.731)	0.500 (0.356)	0.508 (0.362)	0.458 (0.419)
Retired Proposer				-5.042 (9.842)	-1.642 (8.247)	-5.728 (7.944)	-0.771 (0.543)	-0.697 (0.598)	-0.828 (0.598)
Unemployed Proposer	0.0618 (0.0838)	0.0691 (0.0869)	0.0775 (0.0966)	-5.153 (11.34)	-4.932 (10.04)	-0.593 (6.329)	-0.981*** (0.325)	-0.943*** (0.352)	-1.082*** (0.379)
Low-Occup. Proposer	-0.0621* (0.0320)	-0.0540* (0.0318)	-0.0628* (0.0375)	-2.545 (4.456)	-2.438 (3.878)	-4.729 (5.172)	-0.447* (0.262)	-0.412 (0.279)	-0.553* (0.289)
Perc. Status Proposer	0.160* (0.0820)	0.131 (0.0805)	0.178* (0.0965)	4.834 (6.654)	5.705 (6.109)	2.655 (8.482)	0.849 (0.538)	0.804 (0.552)	0.978 (0.622)
Perc. Attractiveness Proposer	-0.00930 (0.0130)	-0.00415 (0.0122)	-0.00836 (0.0141)	0.708 (1.278)	0.209 (1.130)	-1.284 (1.147)	-0.148 (0.104)	-0.210** (0.104)	-0.211* (0.120)
Perc. Age Responder	-0.00596 (0.0156)	-0.00396 (0.0158)	-0.0285* (0.0163)	4.729** (1.888)	4.524*** (1.722)	4.701** (1.876)	-0.0241 (0.112)	-0.0183 (0.117)	-0.0915 (0.130)
Perc. Status Responder	-0.0924 (0.0588)	-0.0954 (0.0607)	0.0108 (0.0686)	-15.14** (6.607)	-15.32*** (5.836)	-22.32*** (8.263)	0.189 (0.414)	0.298 (0.415)	0.227 (0.457)
Perc. Attractiveness Responder	0.00163 (0.0176)	0.00591 (0.0174)	-0.0205 (0.0175)	3.981* (2.046)	4.030** (1.812)	4.542** (2.199)	0.105 (0.113)	0.123 (0.115)	0.0324 (0.126)
(Pie-Mean) by Stage	0.00110 (0.000791)	0.000638 (0.000802)	0.000288 (0.000831)	1.212*** (0.0999)	1.223*** (0.0893)	1.296*** (0.120)	-0.00157 (0.00327)	-0.00211 (0.00350)	-0.00299 (0.00584)
Remaining Time	0.000653** (0.000274)	0.000588** (0.000262)	0.00113*** (0.000317)	0.0835* (0.0470)	0.0864** (0.0403)	0.0504 (0.0331)	0.00602** (0.00242)	0.00650*** (0.00240)	0.00737*** (0.00285)
No. Of Rounds	-0.0298*** (0.00765)	-0.0300*** (0.00760)	-0.0324*** (0.00846)	-7.263*** (1.039)	-6.614*** (0.904)	-6.563*** (0.781)			
First Round Offer	-0.00211* (0.00120)	-0.00206* (0.00114)	-0.00309** (0.00146)	-1.108*** (0.211)	-1.098*** (0.194)	-1.235*** (0.274)	-0.0483*** (0.00883)	-0.0494*** (0.00967)	-0.0499*** (0.0107)
Proposer Starts				19.12*** (6.930)	16.94*** (5.913)	12.10 (7.390)	0.920** (0.404)	0.862* (0.463)	0.516 (0.530)
Proposer Accepts				-11.41*** (3.324)	-10.74*** (2.965)	-8.884*** (3.313)			
Constant				54.92*** (19.21)	58.62*** (16.09)	73.75*** (14.56)			
Controls for Stage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	428	428	314	377	377	278	377	377	278
R-squared				0.994	0.995	0.996			
H_0 : MF=FM	0.91	0.70	0.85	0.05	0.06	0.06	0.79	0.61	0.51
H_0 : MF=MM	0.18	0.13	0.14	0.02	0.03	0.06	0.33	0.36	0.17
H_0 : FM=MM	0.13	0.18	0.24	0.50	0.51	0.85	0.17	0.11	0.05

Notes: The dependent variables, *Prob. of No Agreement*, *Proposer's Outcome* and *No. of Rounds* are defined in the notes of Table 3. Columns 1, 4 and 7, replicate columns 4-6 in Table 3. Columns 2, 5 and 8, show estimation results using a regression that weights each observation within each gender combination by the inverse of its probability. Columns 3, 6 and 9 show estimation results restricted to the matched sample. That matching is done following a nearest neighbor without replacement, where the treatment variable is defined as the dummy variable that takes the value of 1 if the responder is female and 0 otherwise. At the bottom, *p*-values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Clustered standard errors at the proposer level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

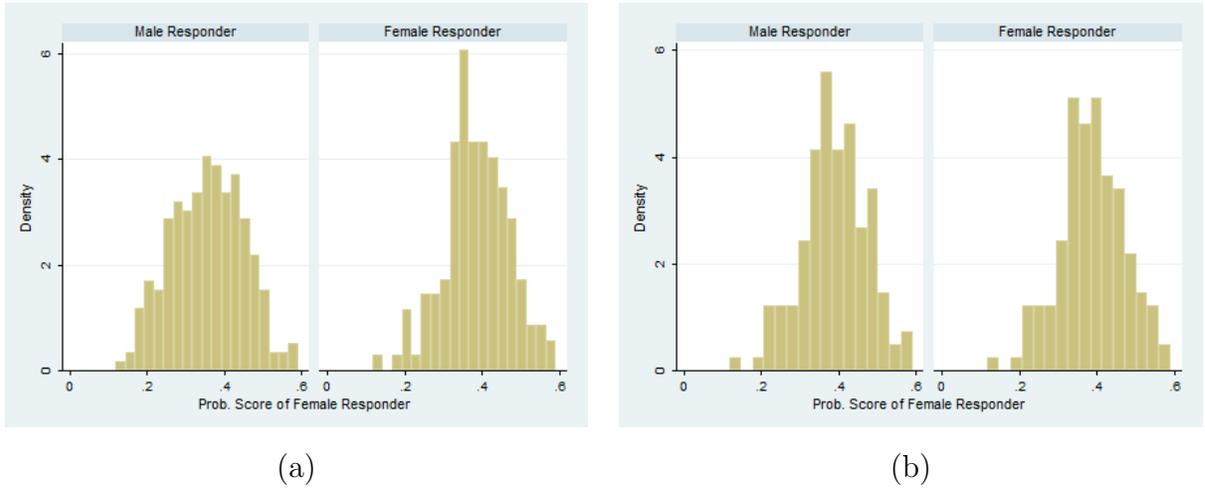


Figure 1: (a) Histogram for Probability Score of Proposers choosing a Female Responder. (b) Histogram for Probability Score of Proposers choosing a Female Responder in the Matched Sample

Table A1. Alternative Specifications and Additional Results
for the Choice of the Sex of the Responder

	LPM Prob. Male Responder (1)	Logit Prob. Male Responder (2)	RE Probit Prob. Male Responder (3)	Probit Prob. Male Responder (4)	Probit Prob. Male Responder (5)
Male Proposer	0.142** (0.0555)	0.138*** (0.0525)	0.145** (0.0605)	0.154** (0.0647)	0.0552 (0.153)
Age Proposer	0.00252 (0.00356)	0.00257 (0.00339)	0.00166 (0.00372)	0.00221 (0.00337)	0.00212 (0.00338)
Student Proposer	0.117 (0.0819)	0.110 (0.0739)	0.104 (0.0917)	0.106 (0.0750)	0.106 (0.0749)
Retired Proposer	-0.119 (0.192)	-0.135 (0.192)	-0.0934 (0.285)	-0.133 (0.186)	-0.128 (0.187)
Unemployed Proposer	0.146* (0.0843)	0.145** (0.0700)	0.138 (0.0905)	0.140* (0.0724)	0.134* (0.0741)
Low-Occupation Proposer	0.00276 (0.0726)	0.00403 (0.0677)	0.0103 (0.0794)	0.00423 (0.0689)	0.00322 (0.0684)
Perc. Attractiveness Proposer	0.0534* (0.0277)	0.0551** (0.0272)	0.0537* (0.0306)	0.0539** (0.0265)	0.0433 (0.0285)
Perc. Status Proposer	-0.148 (0.126)	-0.157 (0.125)	-0.163 (0.151)	-0.149 (0.124)	-0.152 (0.124)
(Pie-Mean) by Stage	-0.000435 (0.000779)	-0.000434 (0.000773)	0.0000334 (0.00105)	-0.000277 (0.000773)	-0.000274 (0.000786)
Stage 2	-0.00467 (0.0575)	-0.000814 (0.0564)	-0.0125 (0.0631)	-0.00508 (0.0559)	-0.00498 (0.0560)
Stage 3	-0.0483 (0.0564)	-0.0485 (0.0545)	-0.0408 (0.0582)	-0.0476 (0.0545)	-0.0466 (0.0546)
Stage 4	0.0412 (0.0764)	0.0424 (0.0737)	0.0597 (0.0836)	0.0356 (0.0739)	0.0394 (0.0731)
Remaining Time	0.000507 (0.000486)	0.000491 (0.000482)	0.000502 (0.000504)	0.000534 (0.000473)	0.000543 (0.000467)
Male Question	0.290*** (0.0539)	0.308*** (0.0535)	0.324*** (0.0550)	0.343*** (0.0586)	0.301*** (0.0521)
Female Question	-0.303*** (0.0638)	-0.282*** (0.0623)	-0.314*** (0.0720)	-0.275*** (0.0965)	-0.289*** (0.0639)
Male Proposer*Male Question				-0.154 (0.157)	
Male Proposer*Female Question				-0.0193 (0.120)	
Male Proposer*Perc. Attract. Proposer					0.0249 (0.0419)
Constant	0.274 (0.184)				
Observations	428	428	428	428	428
R-squared	0.154				

Notes: The dependent variable takes the value 1 if the selected responder is male and 0 otherwise. The table shows the marginal effect values of the coefficients using the probit model. The control variables are described in the notes of Table 1. Clustered standard errors at the proposer level (columns 1, 2, 4 and 5) and bootstrapped standard errors (column 3), in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A2. Are Male Responders
More Likely to Know the Correct Answer?

	Prob. Correct Answer (1)	Prob. Correct Answer (2)
Male Responder	-0.0648* (0.0343)	-0.0482 (0.0362)
Male Question		-0.123** (0.0612)
Female Question		-0.0353 (0.0507)
Observations	427	427

Notes: The dependent variable takes the value 1 if the responder provided the correct answer and 0 otherwise. The table shows the marginal effect values of the coefficients using the probit model. The control variables are described in the notes of Table 1. Clustered standard errors at the proposer level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A3. Alternative Specifications for Gender Differences
and Gender Interaction Effects in Bargaining Outcomes

	LPM Prob. No Agreement (1)	Logit Prob. No Agreement (2)	RE Probit Prob. No Agreement (3)	RE Proposer's Outcome (4)	OLS No. of Rounds (5)	RE No. of Rounds (6)
MF	-0.0624 (0.0471)	-0.0521 (0.0407)	-0.0440 (0.129)	10.78*** (3.822)	-0.209 (0.375)	-0.183 (0.374)
FM	-0.0532 (0.0499)	-0.0372 (0.0403)	-0.0422 (0.0462)	2.995 (3.689)	-0.0952 (0.361)	-0.0851 (0.361)
MM	0.00145 (0.0466)	0.0117 (0.0392)	0.0183 (0.0497)	-0.523 (5.037)	-0.520 (0.320)	-0.510 (0.322)
Constant	0.413*** (0.137)			54.92*** (19.21)	2.231** (1.063)	2.198** (1.073)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	428	428	428	377	377	377
R-squared	0.117				0.160	
Number of Proposers			131	131		131
H_0 : MF=FM	0.85	0.74	0.99	0.05	0.77	0.80
H_0 : MF=MM	0.19	0.18	0.64	0.02	0.35	0.31
H_0 : FM=MM	0.20	0.21	0.22	0.50	0.15	0.15

Notes: The dependent variables refer to: *the Prob. of No Agreement*, which takes the value of 1 when the bargaining partners do not reach an agreement and 0 otherwise (columns 1 to 3); *Proposer's Outcome*, which summarizes the outcome in euro obtained by the proposer from the bargaining (column 4); and *No. of Rounds* describes the duration of the bargaining process (columns 5 to 6). All controls, as shown in Table 3 in the paper, are included. At the bottom, *p*-values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Clustered standard errors at the proposer level (columns 1 ,2 ,4 ,5 and 6) and bootstrapped standard errors (column 3), in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table A4. Gender Interaction Effects in Proposers' and Responders' Bargaining Strategies

	Proposers				Responders			
	Silent (1)	Increasing Offers (2)	Decreasing Offers (3)	Maintaining (4)	Silent (5)	Increasing Demands (6)	Decreasing Demands (7)	Maintaining (8)
MF	0.0220 (0.0279)	0.0789** (0.0393)	-0.0172** (0.00845)	-0.0610 (0.0387)	0.0410 (0.0702)	0.0106 (0.0580)	-0.0720 (0.0902)	0.0959 (0.0826)
FM	0.00388 (0.0170)	0.0259 (0.0389)	-0.0336** (0.0142)	0.00381 (0.0372)	0.0752 (0.0635)	-0.0607 (0.0467)	0.0430 (0.0815)	0.0278 (0.0730)
MM	0.0119 (0.0214)	0.116*** (0.0372)	-0.0228** (0.0103)	-0.0847** (0.0393)	0.0352 (0.0612)	-0.0538 (0.0431)	0.0223 (0.0797)	0.0659 (0.0812)
Age Proposer	0.000779 (0.000735)	0.00109 (0.00189)	5.46e-05 (0.000533)	-0.00120 (0.00177)				
Student Proposer	-0.0140 (0.0149)	0.0656* (0.0388)	-0.0110 (0.00899)	-0.0527 (0.0408)				
Retired Proposer	-0.0266 (0.0299)	-0.0436 (0.105)	-0.0153*** (0.00437)	0.0782 (0.126)				
Unemployed Proposer	-0.0101 (0.0342)	0.00654 (0.0674)	-0.000952 (0.0169)	0.000285 (0.0874)				
Low-Occup. Proposer	-0.00647 (0.0146)	-0.0727* (0.0418)	0.00308 (0.0119)	0.0667* (0.0403)				
Perc. Age Proposer					0.00322 (0.0202)	-0.0232 (0.0214)	0.00414 (0.0250)	0.0166 (0.0252)
Perc. Status Proposer	-0.0483 (0.0317)	0.0130 (0.0662)	0.00650 (0.0259)	0.00499 (0.0649)	0.0266 (0.0883)	-0.0822 (0.0859)	0.128 (0.136)	-0.0600 (0.112)
Perc. Attractiveness Proposer	0.00592 (0.00577)	-0.00121 (0.0118)	-0.00329 (0.00463)	0.00350 (0.0120)	0.0141 (0.0183)	0.00453 (0.0171)	-0.0158 (0.0255)	0.0170 (0.0216)
Perc. Age Responder	-0.00177 (0.00533)	0.00610 (0.0177)	-0.00785 (0.00559)	8.83e-05 (0.0175)	0.00421 (0.0214)	0.0113 (0.0180)	-0.0102 (0.0320)	-0.00512 (0.0300)
Perc. Status Responder	0.0171 (0.0236)	-0.108* (0.0627)	-0.00692 (0.0196)	0.0917 (0.0605)	-0.135* (0.0805)	0.0812 (0.0753)	0.0493 (0.109)	-0.134 (0.102)
Perc. Attractiveness Responder	-0.00725 (0.00663)	0.0153 (0.0175)	-0.00941* (0.00531)	-0.00317 (0.0172)	0.0242 (0.0253)	-0.0347 (0.0222)	0.00394 (0.0328)	0.0297 (0.0328)
(Pie-Mean) by Stage	0.000555 (0.000348)	0.000295 (0.000570)	-4.86e-05 (0.000153)	-0.000334 (0.000518)	0.000613 (0.000858)	-0.000844 (0.000514)	0.00166 (0.00106)	-0.000752 (0.000879)
Stage 2	0.00844 (0.0155)	0.0602 (0.0376)	0.000590 (0.0100)	-0.0619* (0.0345)	-0.0276 (0.0508)	-0.00889 (0.0426)	-0.0845 (0.0663)	0.0983 (0.0603)
Stage 3	-0.0130 (0.0170)	0.0443 (0.0354)	0.000577 (0.0103)	-0.0443 (0.0340)	-0.0591 (0.0486)	0.0345 (0.0443)	-0.0631 (0.0677)	0.0190 (0.0584)
Stage 4	-0.0121 (0.0375)	0.107** (0.0477)	0.0173 (0.0185)	-0.119*** (0.0417)	-0.0723 (0.0643)	0.0319 (0.106)	-0.141 (0.0979)	0.0457 (0.0891)
Remaining Time	0.000332** (0.000169)	5.31e-05 (0.000344)	0.000132 (0.000110)	-0.000132 (0.000320)	-0.000441 (0.000486)	-0.000370 (0.000393)	0.000504 (0.000630)	-0.000237 (0.000511)
No. Of Rounds	0.00312 (0.00345)	0.0336*** (0.0127)	0.00322 (0.00241)	-0.0360*** (0.0117)	0.0558*** (0.0151)	0.0482*** (0.00960)	-0.0287** (0.0129)	-0.0450*** (0.0153)
Round	-0.00338 (0.00305)	-0.0864*** (0.0122)	0.00220 (0.00216)	0.0842*** (0.0128)	-0.0945*** (0.0133)	-0.0395*** (0.0135)	-0.0104 (0.0146)	0.0730*** (0.0148)
Observations	1,349	911	911	911	1,174	551	551	551
Number of Responders	377	308	308	308	354	230	230	230
H_0 : MF=FM	0.43	0.19	0.15	0.09	0.64	0.24	0.20	0.42
H_0 : MF=MM	0.63	0.30	0.43	0.51	0.93	0.23	0.24	0.71
H_0 : FM=MM	0.64	0.02	0.35	0.03	0.49	0.88	0.78	0.60

Notes: Dependent variables refer to the different types of strategies used in the bargaining process. *Silent* takes the value of 1 when the proposer or responder remains silent. *Increasing* takes the value of 1 when the proposer or responder increases the offer or demand from one round to the next. *Decreasing* takes the value of 1 when the proposer or responder decreases the offer or demand from one round to the next. Finally, *Maintain* takes the value of 1 when the proposer or responder maintains the same offer or demand from one round to the next. All columns show the marginal effect values of the coefficients using the probit random effects model. At the bottom, p -values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Bootstrapped standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A5. Alternative Specifications with Collapsed Data for
Gender Interaction Effects in Offers, Demands and Probabilities of Acceptance

	OLS or RE	Probit	RE Probit	OLS or RE	Probit	RE Probit
	Offers (round>1)	Prob. Responder Accepts (round>1)	Prob. Responder Accepts (round>1)	Demands	Prob. Proposer Accepts	Prob. Proposer Accepts
	(1)	(2)	(3)	(4)	(5)	(6)
MF	-0.673 (3.090)	-0.127 (0.0960)	-0.127 (0.091)	-42.71*** (14.18)	0.0446 (0.0783)	0.044 (0.0963)
FM	-2.959 (2.445)	0.0480 (0.0887)	0.048 (0.0892)	-6.507 (12.79)	-0.0565 (0.0737)	-0.053 (0.085)
MM	-1.815 (3.375)	0.109 (0.0807)	0.109 (0.0963)	-2.557 (12.48)	-0.120* (0.0685)	-0.120 (0.0874)
Constant	22.21** (11.02)			87.75 (58.13)		
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	316	316	316	321	321	321
R-squared	0.729			0.487		
Number of Proposers	121			122		
H_0 : MF=FM	0.50	0.09	0.14	0.02	0.24	0.34
H_0 : MF=MM	0.70	0.00	0.01	0.00	0.01	0.04
H_0 : FM=MM	0.76	0.45	0.41	0.79	0.35	0.43

Notes: The dependent variable *Offers* refer to the offers in euro made by the proposer (column 1); *Prob. Responder Accepts* takes the value of 1 when the responder accepts the offer made by the proposer and 0 otherwise (columns 2 and 3); *Demands* refer to the demands in euro made by the responder (columns 4); and *Prob. Proposer Accepts* takes the value of 1 when the proposer accepts the demand made by the responder and 0 otherwise (columns 5 and 6). At the bottom, p -values for the hypothesis testing are shown where pairwise comparisons are made for the different gender combinations, where FF refers to bargaining between women, MF refers to the bargaining between a male proposer and a female responder, FM refers to the bargaining between a female proposer and a male responder and MM refers to the bargaining between men. Clustered standard errors at the proposer level (columns 1,2,4,and 5) and bootstrap standard errors (column 3 and 6), in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$