

# BARGAINING IN THE SHADOW OF UNCERTAINTY\*

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## Abstract

In bargaining environments with stochastic future surplus, failing to delay agreement can be inefficient when the expected future surplus is sufficiently high. Theoretically, such inefficiencies never arise under unanimity rule but can under majority rule. Using a laboratory experiment, we find support for these predictions, both when the unanimity rule is predicted to be more efficient and when there should be no difference between the two rules. We also find large point prediction deviations under the majority rule. We show these deviations can be explained by higher-than-predicted egalitarian sharing and a lower risk of being excluded from future agreements.

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## ONLINE APPENDIX

### **B Instructions for U96 treatment**

This is an experiment in the economics of decision making. The instructions are simple, and if you follow them carefully and make good decisions you may earn a CONSIDERABLE AMOUNT OF MONEY which will be PAID TO YOU IN CASH at the end of the experiment. In addition to what you will earn in the experiment, you will get a \$12 participation fee if you complete the experiment.

In this experiment you will play 12 Matches. At the start of each Match you will be randomly divided into groups of 3 members each. In any Match you will not know the identity of the subjects you are matched with and your group-members will not know your identity. At the start of each Match, each member of the group will be assigned an ID number (from 1 to 3), which is displayed on the top of the screen. Since ID numbers will be randomly assigned prior to the start of each Match, all members are likely to have their ID numbers vary between Matches. In addition, since you will be randomly re-matched to form new groups of 3 at the start of each Match, it is impossible to identify subjects using their ID numbers.

Each Match consists of one or more Rounds. Your ID number will stay the same during all the Rounds of a Match. However, once the Match is over, you will be randomly re-matched to form new groups of 3 members each and you will be assigned a (potentially) NEW ID. Please make sure you know your ID number when making your decisions.

In each Match, each group will decide how to split a sum of money (the “budget”). One of the 3 members in your group will be randomly chosen to be the proposer. Each member has the same chance of being selected to be the proposer. The proposer can take one of two actions. The proposer can either submit an “allocation proposal” of how to split the budget among the 3 members, or the proposer can hit a “delay” button. In the first Round of a Match, the budget available to be split will be 24 dollars. We will describe the budget available in other Rounds as well as what happens if the proposer chooses to hit the “delay” button shortly.

Suppose the proposer chooses to make an allocation proposal. After the allocation proposal is submitted, it will be posted on your computer screens with the allocation to you and the other members clearly indicated. You will then have to decide whether to accept or reject the allocation proposal. Allocation proposals will be voted up or down (accepted or rejected) by unanimity rule. That is, if all three members approve the allocation proposal, the match ends and the earnings from this match are given by the approved allocation proposal. If at least one of three members rejects the allocation proposal, it is voted down.

If the allocation proposal is voted down (that is at least one member of your group

votes against it), then one of two things can happen:

- With 20% chance the Match ends and all members of your group will earn 0 dollars for this Match.
- With 80% chance you move on to the next Round of this Match. In this case, one of the 3 members in your group will be randomly chosen to be the proposer for this round. After the proposer has been chosen, he will have the choice between hitting the “delay” button, or making an allocation proposal on how to split the budget. However, budget will either be 24 dollars or 96 dollars, with 50/50 chance of each. In other words, there is 50% chance that the proposer in Round 2 will be dividing 24 dollars between group members and 50% chance that the proposer in Round 2 will be dividing 96 dollars. The proposer in Round 2 and all group members will know the size of the budget available for division before making any decisions. If the proposer submits an allocation proposal and it is voted down, then again with 20% chance the Match ends and all members of your group will earn 0 dollars for this Match, and with 80% chance you will move on to the next Round of this Match. If the group moves on to the next Round, then, again, one of the 3 group-members will be randomly chosen to either hit the “delay” button, or make an allocation proposal on how to split budget among the 3 members with each member equally likely to be chosen as a proposer. The budget size will either be 24 dollars or 96 dollars, with 50/50 chance of each. In fact, for all Rounds after the first Round, the budget will either be 24 dollars or 96 dollars, with 50/50 chance of each. This process repeats itself until a Match ends, either because of the 20% chance it ends between Rounds, or because an allocation proposal has passed.

Recall that instead of submitting an allocation proposal, a proposer can choose to “delay.” If a proposer chooses “delay”, then the group goes through the same stages as if a proposal is rejected. That is, if a proposer chooses “delay” then with 20% chance the Match ends and all members receive 0 dollars for this Match. With 80% chance the group moves on to the next Round within the Match, one member of your group is randomly chosen to be the next proposer and the amount of money to split is either 24 dollars or 96 dollars with 50/50 chance of each etc.

To summarize, in any given round, if an allocation proposal is rejected, or if the proposer chooses “delay,” then with 20% chance the Match ends and members of the group earn 0 dollars for this Match. With 80% chance a new Round starts, one member of your group is randomly chosen to be the proposer and the budget to be split is either 24 or 96 dollars, each with 50/50 chance. This continues until a Match ends, either because of the 20% chance it ends between rounds, or because an allocation proposal passes.

Communication: In each Round, after one voter is selected to propose a split but before he/she submits his/her allocation proposal, members of a group will have the opportunity to communicate with each other using chat boxes. The communication is structured as follows. On the top of the screen, each member of the group will be told her ID number. You will also know the ID number of the member who is currently selected to make a proposal. Below you will see three boxes, in which you will see all messages sent to either all members of your group or to you personally. You will not see the chat messages that are sent privately to other members. If you would like to send the message that will be delivered to the entire group, please type your message underneath the first chat box and hit SEND. If you would like to send a private member of your group, please type your message underneath the chat box that indicates the chat with that member and hit SEND.

There is a 20 second period of time at the start of each Round during which the proposer cannot submit his/her allocation or choose delay. During this time, any person in the group can choose to use the chat function on his/her screen. The chat option will be available as soon as the Round starts, and for at least 20 seconds. The chat option will become unavailable when the proposer either submits his allocation proposal or hits delay. You are not to communicate in any other way with any other subject while the experiment is in progress. This is important to the validity of the study.

Remember that in each Match subjects are randomly matched into groups and ID numbers of the group-members are randomly assigned. Thus, while your ID number stays the same during all the Rounds in a Match, your ID number is likely to vary from Match to Match, and therefore it is impossible to identify your group-members using your ID number.

At the conclusion of the experiment we will randomly select one of the 12 Matches to count for payment. The \$12 participation fee will be added to your earnings in that randomly selected Match.

Review. Let's summarize the main points:

1. The experiment will consist of 12 Matches. There may be several Rounds in each Match.
2. Prior to each Match, you will be randomly divided into groups of 3 members each. Each subject in a group will be assigned an ID number.
3. At the start of each Match, in Round 1, one subject in your group will be randomly selected to be a proposer in this Round. The proposer can choose either to submit an allocation proposal or to delay. The size of the budget in Round 1 is 24 dollars. Before the proposer chooses his/her action, all members of the group can use the chat box to communicate with each other. You may send public messages that will

be delivered to all members of your group as well private messages that will be delivered to specific members of your group.

4. Proposals to each member must be greater than or equal to 0 dollars.
5. If all 3 members accept the allocation proposal, the Match ends.
6. If one or more members reject the allocation proposal, or if the proposer chose to hit the “delay” button, then one of two things can happen:
  - With 20% chance the Match ends and all members of the group earn 0 dollars.
  - With 80% chance the Match continues. In this case, one member of the group will be randomly selected to be the proposer in Round 2. The budget available for division in Round 2 will be either 24 or 96 dollars, each with 50/50 chance. The proposer can choose either to delay or to submit an allocation proposal, etc...
7. The process in step 6 repeats itself until a Match is over, either because of the 20% rule, or because an allocation proposal has passed. At the end of the experiment, the computer will randomly select one of the 12 Matches you played, and your earnings in this selected match will be paid to you in cash together with the participation fee of \$12.

Are there any questions?

## **C Screenshots for U96 treatment**

Before starting the experiment, we will show you a few screenshots so that you can familiarize yourself with the interface. After that, we will start the experiment, in which you will play 12 Matches. Please note that the numbers and decisions from the screenshots below are just examples and are not meant to indicate what you should do in this experiment.

The screenshot in [Figure 4](#) is a typical screenshot that proposers see.

## Propose

This is Match 1.

YOU ARE MEMBER 1.

This is round 1

The proposer is member 1

Bargaining Round	Budget	Proposer	Proposal	Votes
1	24	1	--	--

Group Chat	Chat with Member 2	Chat with Member 3
<div style="background-color: #e0e0e0; height: 80px;"></div> <input type="text"/> <input type="button" value="Send"/>	<div style="background-color: #e0e0e0; height: 80px;"></div> <input type="text"/> <input type="button" value="Send"/>	<div style="background-color: #e0e0e0; height: 80px;"></div> <input type="text"/> <input type="button" value="Send"/>

The budget in this round is 24. Please propose how to divide this budget or click Delay.

Proposer (Me)

Member 2

Member 3

FIGURE 4: Screenshot of the Proposer

Please take a look at the bottom part of the screen depicted in [Figure 5](#):

The budget in this round is 24. Please propose how to divide this budget or click Delay.

Proposer (Me)  Member 2  Member 3

FIGURE 5: Bottom Part of Screenshot of the Proposer

Notice that there are three boxes labeled with the ID numbers of the members. This is where the proposer writes his/her allocation, corresponding to the amounts to members 1, 2 and 3, respectively. The proposer is the only member of the group who can choose to submit an allocation or “delay”. When you are done choosing an allocation, hit submit. If you choose to “delay”, hit Delay.

Let’s look at the rest of the screen. On the top left side you will be able to see the history of the current Match depicted in [Figure 6](#):

Bargaining Round	Budget	Proposer	Proposal	Votes
1	24	1	--	--

FIGURE 6: History of Current Match

Take a moment to look at that. It will show you the budget size for each Round of the Match, the ID number of the proposer for that Round, and once the proposal has been submitted votes have taken place you will see those too. If the proposer chose to “delay” then you will see “DELAY” in the space under “proposal.”

Below the Match-history box, you will see the chat boxes depicted in [Figure 7](#). The left chat box shows the group conversations, while the middle and the right box show the private conversations with the other two members. Below each chat box are the boxes you will use to send messages if you choose to do so.

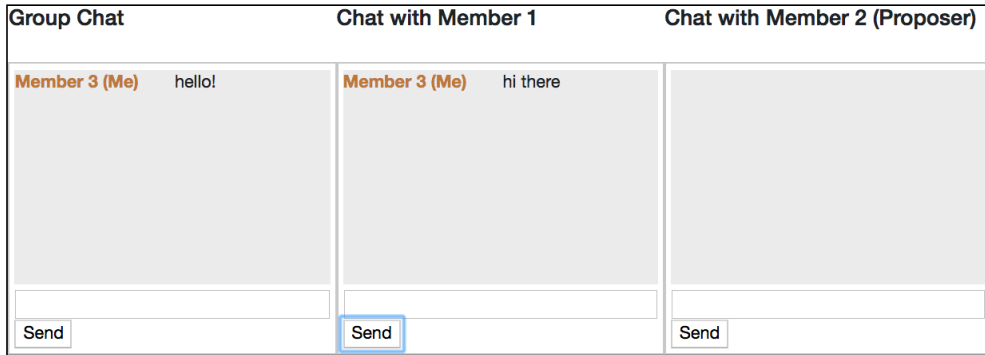


FIGURE 7: Chat Box

Below in [Figure 8](#) is a screenshot of the non-proposers. It is identical to the proposer screens except for the right hand side since only proposer can choose to submit an allocation or “delay.”



**Please wait**

This is Match 1.  
YOU ARE MEMBER 2.  
This is round 1  
The proposer is member 1

Bargaining Round	Budget	Proposer	Proposal	Votes
1	24	1	--	--

Group Chat	Chat with Member 1 (Proposer)	Chat with Member 3
<div style="background-color: #cccccc; height: 100px;"></div> <input type="text"/> <input type="button" value="Send"/>	<div style="background-color: #cccccc; height: 100px;"></div> <input type="text"/> <input type="button" value="Send"/>	<div style="background-color: #cccccc; height: 100px;"></div> <input type="text"/> <input type="button" value="Send"/>

You can chat while waiting for the proposer to decide.



FIGURE 8: Screenshot of the Non-Proposer

Below is another example of a within Match history (see Figure 9). In this particular example, the proposer in Round 1 was member 1 and he/she chose to Delay. The match continued to the next round. In Round 2, the proposer was member 2, the budget was 96 dollars and the proposer chose to submit an allocation according to which member 1 gets 2 dollars, she (member 2) gets 50 dollars and member 3 gets 44 dollars. The proposal was rejected since it didn't not receive all 3 yes votes. The match continued to the next round. In Round 3, member 2 was again randomly chosen to be the proposer and she submitted another allocation according to which member 1 gets 90 dollars, member 2 (herself) gets 6 dollars and member 3 gets 0 dollars. Notice that in this table you can always see the size of the budget as well as who was proposer in every round, what action they took (propose an allocation or "delay") and the results of the votes.

Bargaining Round	Budget	Proposer	Proposal	Votes
1	24	1	Delay	None
2	96	2	2 50 44	No Yes No
3	96	2	90 6 0	--

FIGURE 9: Match History

If a proposer submits an allocation, all members of the group see the screen like the one in Figure 10. The proposal is clearly indicated, and your payoff if the proposal is approved is highlighted in red. You can then vote yes or no to the proposal. Please note that the numbers here are just examples and are not meant to indicate what you should do in this experiment.

The proposer for this round was member 1.

The proposer chose [2 22 0], which is displayed below.

Your payoff is shown in **red**

	Member 1	Member 2	Member 3
Allocation Proposal	2	<b>22</b>	0

Please click the button below corresponding to your vote on this proposal and click Next:

Yes  No

**Next**

FIGURE 10: Voting Screen

After members vote all members see the screen like the one in Figure 11:

The votes were (Yes, Yes, Yes).

The Allocation Proposal passed.

	Member 1	Member 2	Member 3
Allocation Proposal	2	50	44
Your earnings from this round:			44

Next

FIGURE 11: Summary of Votes

Your earnings are always highlighted in red. If the match randomly ends because of the 20% rule you, you will see the messages shown in Figure 12 on the right hand side of your screen.

The match has been randomly terminated (20 percent rule).

Next

FIGURE 12: Termination Message

Are there any questions?

## D Investment Tasks

**Investment Task 1.** You are endowed with 200 tokens (or \$2) that you can choose to keep or invest in a risky project. Tokens that are not invested in the risky project are yours to keep.

The risky project has 50% chance of success:

- If the project is successful, you will receive 2.5 times the amount you chose to invest.
- If the project is unsuccessful, you will lose the amount invested.

Please choose how many tokens you want to invest in the risky project. Note that you can pick any number between 0 and 200, including 0 or 200.

**Investment Task 2.** You are endowed with 200 tokens (or \$2) that you can choose to keep or invest in a risky project. Tokens that are not invested in the risky project are yours to keep.

The risky project has 40% chance of success:

- If the project is successful, you will receive 3 times the amount you chose to invest.
- If the project is unsuccessful, you will lose the amount invested.

Please choose how many tokens you want to invest in the risky project. Note that you can pick any number between 0 and 200, including 0 or 200.

In the experiment, one of the two investment tasks was randomly chosen to count for payment.

Table 6 presents summary statistics for decisions in Investment Tasks across treatments. There are no statistical differences across treatments in this game. We therefore reject that treatment differences are due to differences towards risk as measured in this game.

TABLE 6: Behavior in investment tasks across treatments.

Treatments	Investment Task 1		Investment Task 2	
	mean	median	mean (st dev)	median
M24	121.5 ( $p = 0.544$ )	100 ( $p = 1.00$ )	107.5 ( $p = 0.983$ )	100 ( $p = 1.000$ )
U24	111.7	100	107.8	100
M48	125.4 ( $p = 0.364$ )	100 ( $p = 1.00$ )	100.8 ( $p = 0.671$ )	100 ( $p = 1.000$ )
U48	113.5	100	108.1	100
M96	117.4 ( $p = 0.593$ )	100 ( $p = 1.00$ )	99.0 ( $p = 0.252$ )	100 ( $p = 1.000$ )
U96	125.6	100	118.4	100

Notes: The p-values are the result of OLS and quantile regressions with clustering at the session level.

## E Coding the free-form communication

For 48 and 96 treatments, the coders were asked to code conversations using the categories listed below. The last three categories are for Majority treatments only:

1. Is there any discussion relevant to the experiment (budget, how to split it, whether to delay or not, how often the game is terminated, what is fair, anything that happened in other rounds, clarifications on the experiment etc...)? Yes/No
2. Is there any talk about delay/big pie/big budget, anything about the fact that the budget can be “big”? Yes/No
3. Is there any talk risk of game being terminated? Yes/No

4. Is there any talk about equality and fairness among all group members? Yes/No
5. Are there threats to vote no if not equal division? Yes/No
6. Are there threats to vote no if small budget? Yes/No
7. Other threats? Yes/No
8. Is there any indication of support to wait for a big pie or delay? Yes/No
9. Is there a discussion of a minimum winning coalition, i.e., excluding one member and colluding among two members to divide the budget just among them? Yes/No
10. Is there a conversation about splitting budget equally between you and me? Yes/No
11. Is there a conversation about dividing resources unequally within minimum winning coalition? Yes/No

## F Additional Analysis

**Delays in first bargaining rounds only.** Table 7 mirrors Table 1 in the main text, but focused only on the first stage of each game where the budget is small by design.

TABLE 7: Frequency of delays

	Majority	Unanimity	Maj vs Un
<b>48 treatment</b>			
<i>Small budget</i>	52% (n=192)	83% (n=192)	$p = 0.001$
Prediction	0%	100%	
<b>96 treatment</b>			
<i>Small budget</i>	76% (n=192)	96% (n=192)	$p < 0.001$
Prediction	100%	100%	

Notes: This table shows the total frequency of delays for small budgets at the group level in the first bargaining stage. This frequency encompasses cases in which the proposer chose to delay and those in which the proposal was rejected by the committee. The last column shows the p-values from regression analyses comparing across voting treatments for each row.

**Total committee earnings.** Table 8 show the predicted earnings and the average number of dollars that were distributed among committee members in each treatment with standard errors in parentheses.

TABLE 8: Predicted and observed total earnings of a committee, by treatment

	24 treatment	48 treatment	96 treatment	24 vs 48	48 vs 96
<b>Predictions</b>					
Majority	24	24	64		
Unanimity	24	32	64		
<b>Experiment</b>					
Majority	23.63 (0.24)	26.50 (0.82)	47.13 (0.69)	p = 0.008	p < 0.001
Unanimity	22.75 (0.52)	26.13 (1.43)	56.25 (1.25)	p = 0.048	p < 0.001
Majority vs Unanimity	$p = 0.143$	$p = 0.813$	$p < 0.001$		

Notes: We present the averages of total number of dollars appropriated by committees in expectation as well as in the experiment in each treatment. Robust standard errors are calculated based on regressions with clustering at the session level and presented in the parenthesis. The last line reports statistical tests comparing the two voting treatments obtained using regression analysis. The last two columns report statistical tests comparing the average surpluses in different treatment with the same voting rule.

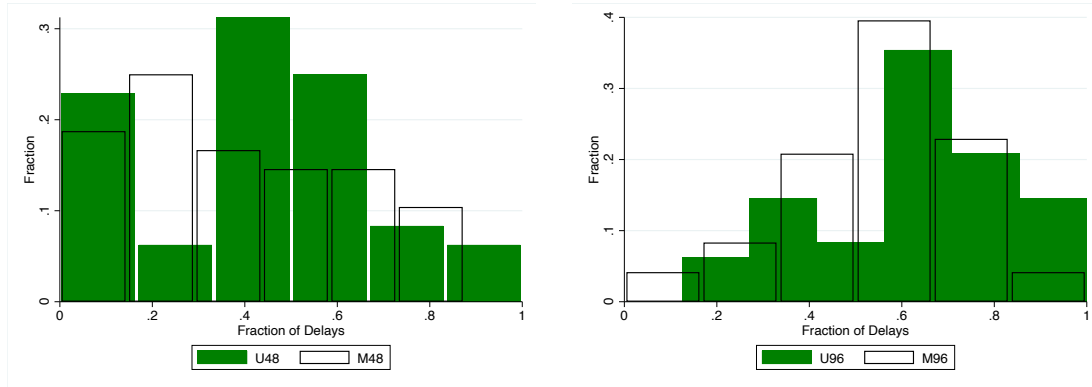
Table 8 shows that higher expected future surplus translates into higher average earnings of a committee. Indeed, for each voting rule separately, committees appropriate significantly higher surpluses in the 48 treatment compared with the 24 treatment and in the 96 treatment compared with the 48 treatment (see the last two columns with  $p$ -values).

Moreover, comparing the average surplus across voting rule for a fixed size of the future expected surplus, we note that two opposing forces determine this ranking. Under the majority rule, committees pass small budgets more often and large budgets less often than committees under unanimity rule, which gives unanimity rule committees an advantage compared with majority rule committees. On the other hand, as we described in Footnote 31, subjects under the unanimity rule were “unlucky” (statistically speaking) and experienced higher termination rates (controlling for delaying) compared with the majority rule. Empirically, in the M48 and U48 treatments, these two forces happen to exactly offset each other, which is why we observe similar average earnings in the two voting rules, *despite* the fact that subjects in the Unanimity rule choosing to delay small budgets significantly more often. In the M96 and U96 treatments on the other hand, where the gains from waiting to reach a round with a higher budget are the highest, the first force dominates the second, and the unanimity rule outperforms the majority rule.

**Delays at the individual level.** Figure 13 depicts the histograms of individual propensity to delay for each participant when he or she was selected to be the proposer conditional on the budget being small. These are average frequencies of delays per person across all twelve games played in a session.

The Figure 13 reveals that there is noticeable heterogeneity in individual propensity to delay in each treatment. However, despite this heterogeneity, the comparison across

FIGURE 13: Individual propensity to delay, by treatment



Panel (A): 48 treatment

Panel (B): 96 treatment

Notes: For each participant, we compute the frequency with which she delayed splitting the small budget when she was selected to be a proposer over the course of the entire experiment.

voting rules is similar to those at the aggregate level. Indeed, proposers are more likely to delay splitting the small budget in the Unanimity treatment as compared with the Majority treatment. This effect is statistically significant for the 96 treatment ( $p = 0.018$ ) but not for the 48 treatment ( $p = 0.824$ ).

**Learning.** Table 9 below compares the fraction of small-budget proposals that are passed in each treatment, separating the data between the first and second halves of the experiment. In both halves of the experiment, small budgets are much more likely to pass in the Majority treatments than in the Unanimity treatments that feature stochastic future budgets.

TABLE 9: Fraction of small-budget proposals passed in the two halves of the experiment.

Treatment	First Half	Second Half
M48	93.7% ( $p < 0.001$ )	93.2% ( $p = 0.002$ )
U48	40.9%	43.2%
M96	87.8% ( $p < 0.001$ )	81.1% ( $p = 0.026$ )
U96	34.4%	28.0%

Notes: For each budget distribution we compare the outcomes in the Majority and Unanimity treatments using regression analysis, in which we regress the variable of interest on the constant and an indicator for one of the treatments, while clustering standard errors by session. We report the  $p$ -value associated with estimated coefficient on the dummy for one of the treatments.

In Table 10 we replicate material from the main text, but breaking it down by first and second halves of the game as well as by bargaining round. We focus on the rejection

TABLE 10: Rejection rates in the first and second half of the experiment by bargaining round

	Small budgets				Large budgets
	overall	1st round	2nd round	>3rd round	overall
FIRST HALF					
M48	51.2%	50.0%	52.9%	62.5%	0.0%
	$p < 0.001$	$p = 0.003$	$p = 0.005$	$p = 0.637$	.
U48	81.3%	83.3%	86.1%	50.0%	9.8%
M96	67.4%	65.6%	70.8%	75.0%	3.2%
	$p < 0.001$	$p < 0.001$	$p = 0.061$	$p = 0.004$	$p = 0.968$
U96	93.5%	93.8%	92.5%	94.1%	3.4%
SECOND HALF					
M48	56.4%	54.2%	68.2%	50.0%	3.9%
	$p = 0.025$	$p = 0.007$	$p = 0.587$	$p = 0.851$	$p = 0.465$
U48	77.9%	82.3%	75.0%	53.9%	7.3%
M96	78.3%	85.4%	61.3%	63.4%	4.2%
	$p < 0.001$	$p = 0.002$	$p < 0.001$	$p = 0.178$	$p = 0.477$
U96	96.0%	99.0%	97.8%	84.4%	1.9%

rates of small budgets in line with our analysis in the main text. We note no fundamental differences: small budgets are more likely to be rejected in the Unanimity treatments compared with the Majority ones (this is also generally true if we break it down by bargaining rounds). There is no cross-treatment differences in how large budgets are treated. This aligns with the conclusions obtained when grouping the data from all games and all bargaining rounds together as we did in the main text.

**Proposed Allocations for Small Budgets.** Table 11 shows which types of proposals are made when the budget to be split is of size 24 in each treatment.

In all of the Majority treatments, the modal proposal is an equal split among all three members of the group (this fraction is between 34.9% and 37.7%), though roughly half of the proposals are of size 2, and the other half of size 3. In the Unanimity treatments, a substantial majority of proposals provide an equal split of resources among all three members of the group. Cross-treatment differences in terms of proposal types have strong implications on inequality within groups.

Table 12 shows how frequently small budget-proposals are accepted in each treatment, by the type of proposal. In the Majority treatments, regardless of the type of small-budget proposal, a large majority pass (the fraction ranges from 66.7% to 100%). Strikingly, these fractions remain high even when delaying is an equilibrium, as in the M96 treatment. In the Unanimity treatment, however, the fraction of small-budget proposals that pass range from 0% to 96.6%, and, in line with the theoretical predictions, far fewer of these proposals



TABLE 11: Distribution of proposal types in submitted allocations (small-budget proposals).

Treatment	Coalition Size 2		Coalition Size 3	
	Equal Splits	Unequal Split	Equal Split	Unequal Split
M24	20.0%	25.4%	35.6%	19.0%
M48	35.3%	23.0%	37.7%	4.1%
M96	20.9%	27.9%	34.9%	16.3%
U24	2.4%	1.6%	70.73%	25.2%
U48	0%	0.7%	68.6%	30.7%
U96	0%	1.8%	89.5%	8.8%

Notes: Equal split coalitions of size 2 are proposals in which two members receive the exact same amount while the third receives nothing. Equal split coalitions of size 3 are proposals in which all three members receive the exact same amount.

pass when the cost of early agreement is high, as in the U48 and U96 treatments.

TABLE 12: Fraction of accepted proposals dividing the small budget.

Treatment	Coalition Size 2		Coalition Size 3	
	Equal Splits	Unequal Splits	Equal Splits	Unequal Splits
M24	97.6%	82.7%	98.6%	87.2%
M48	100%	78.6%	95.7%	100%
M96	88.9%	66.7%	96.7%	85.7%
U24	na	na	96.6%	22.6%
U48	na	0%	57.3%	9.3%
U96	na	na	35.3%	0%

Notes: Equal split coalitions of size 2 are proposals in which two members receive the exact same amount while the third receives nothing. Equal split coalitions of size 3 are proposals in which all three members receive the exact same amount. We report data for which we have at least 10 observations.

**Conversation Topics Across Treatments Within a Voting Rule.** Table 13 below shows the statistical tests comparing frequencies of conversation topics across budget size within the same voting rule.

TABLE 13: Topics of conversation across treatments

	M48 vs M96	U48 vs U96
Size of Future Budget	$p = 0.002$	$p = 0.662$
Support for Delaying	$p = 0.049$	$p = 0.286$
Talk about equality/fairness	$p = 0.842$	$p = 0.072$
Threats to vote no if not equal	$p = 0.122$	$p = 0.548$
Threats to vote no if small budget	n.a.	$p = 0.101$
Risk of Game Termination	$p = 0.148$	$p = 0.026$
Talk about equality within MWC	$p = 0.209$	n.a.
Talk about unequal split within MWC	$p = 0.021$	n.a.

Notes: We report the  $p$ -values comparing the frequencies of conversation topics across treatments with different potential budget sizes conditional on the voting rule.