



Instructor Guide to Two-Level Diplomacy and Domestic Ratification

Laboratory implementation, theoretical foundations,
experimental evidence, and variants

Behavioral and Experimental Economics Research Lab
Department of Economics



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<https://beer-lab.org/>

How to use this guide

This guide prepares an international-relations activity about bargaining between countries and domestic ratification. Eight people represent two neutral groups, each with one negotiator and three legislators. An offer requires international acceptance and approval by both assemblies. Instructors can connect observed choices with institutional constraints without assigning national identities to students.

Six chapters organize the reading. The first prepares access and class; the second derives payments and the monetary region; the third compares approval requirements and information; the fourth develops mandates and compensation; the fifth explains continuity and negotiator selection; the sixth interprets data and provides exercises, answers, and assessment. Each extension identifies its specific change and inference limits.

Amounts are Experimental Currency Units (ECU), which do not automatically represent money or grades. This is an original teaching adaptation informed by academic literature. Software and guide validation support local review; a human pilot, catalog integration, and public deployment are subsequent milestones.

Author

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For the instructor

This guide follows the English interface. Spanish versions share rules and accounts. Project only progress during decisions, reveal aggregates after closure, and keep individual links and data private.

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Preparation and implementation

Purpose	International bargaining and domestic constraints.
Experimental unit	Eight people: two negotiators and six legislators in two countries.
Basic edition	One encounter; ten fixed-group rounds; ten rematched rounds retaining positions.
Extended edition	Six-round reference and ten institutional comparisons developed in chapters 3–5.
Decision	Offer for A, acceptance, and ballots; minima, compensation, and selection by variant.
Resources	Base 20, fund 100, outside 50; legislative adjustments -10/0/10.
Payoff	Outside payment on failure; base plus allocation and legislative adjustment on implementation. Transfers and awards follow the selected rule.
Topics	Two-level bargaining, ratification, information, mandates, compensation, and continuity.
JEL	A22, C78, C92, D72, F51, F53.
Configurations	28 configurations; four rooms with counts 3/3/11/11.
Participants	Multiples of eight; at least sixteen with rematching. Demo uses sixteen.
Suggested duration	70 minutes for reference, comparison, and discussion; awaiting a pilot.
Availability	Validated local preview; integration and deployment pending.

1.1 Access links

Institutional website: <https://beer-lab.org/>.

Teaching catalog: <https://teaching.beer-lab.org/>.

Local Demo: <http://localhost:8200/demo>.

Local rooms: <http://localhost:8200/rooms>.

Proposed host; deployment pending: <https://diplomacy.beer-lab.org/>.

- https://diplomacy.beer-lab.org/room/diplomacia_es
- https://diplomacy.beer-lab.org/room/diplomacy_en
- https://diplomacy.beer-lab.org/room/diplomacia_extendido
- https://diplomacy.beer-lab.org/room/diplomacy_extended

Checkpoint

Verify language, horizon, approval rule, and complete groups. The offer always expresses A's allocation. Keep aggregates hidden until decisions close.

1.2 Purpose and experimental unit

The activity examines how international bargaining depends on domestic decisions. Each experimental unit contains eight people: two countries, A and B, each with one negotiator and three legislators. Countries are analytical labels for discussion; the interface uses neutral groups and positions. Real nationalities are not assigned, and classroom choices should not be interpreted as students' political preferences. The outcome requires an offer, acceptance by the other negotiator, and approval by two separate assemblies.

The instructor should distinguish three objects. The proposal allocates a benefit between countries. Acceptance allows domestic consideration. Ratification determines implementation. A negotiator may accept an offer that subsequently fails in their own country, and an assembly may approve an offer that is never implemented because the other assembly rejects it. The agreement's unit of analysis is therefore the eight-person group, whereas votes and payments belong to individuals. A chart with six votes does not contain six independent agreements.

This is an interactive game. Waiting pages coordinate real people through a common sequence; no negotiator or legislator is simulated during a teaching session. Automated software-verification journeys demonstrate operation, not experimental findings about students. The conceptual comparison concerns domestic constraints, allocation opportunities, and observed behaviour, with the selected treatment's rules stated explicitly.

1.3 Institutional access and session creation

Navigation begins at the laboratory website. The CLASSROOM entry leads to the teaching catalog, where users select language, topic, and family. Included captures show actual access to the existing website. The proposed family domain requires separate deployment; a picture of the general catalog does not establish that the new card is published. Canonical links at the beginning of this chapter distinguish the portal, catalog, family instance, and rooms.

Within the instance, Demo presents twenty-eight bilingual configurations. Rooms provides four rooms: Spanish basic, English basic, Spanish extended, and English extended. Each room displays only its own set. Basic rooms contain three configurations, while extended rooms contain eleven. Check language, treatment, horizon, and participant count before creating a session. The participant count is total enrolment; the program forms complete eight-person groups. Random rematching requires at least sixteen people because a single group cannot provide varying counterparts.

Distribute participant links privately and project general instructions without revealing the mapping between links and names. Reserve administrative access for the instructor. If a room permits entry through a common link, first confirm that each device receives a distinct position. The local

preview on this computer supports interface review; it is not a public link students can open from other machines.

1.4 Positions, roles, and basic modes

Positions run from A1 to A4 and B1 to B4. In reference, A1 and B1 negotiate and the remaining positions vote. Initial assignment of people is random. Positions are retained in repeated modes. An encounter ends after bargaining, acceptance or rejection, voting when applicable, and payment calculation. Do not confuse a stage with a round: the offer and six ratification decisions belong to the same encounter.

The one-encounter mode introduces the mechanism without history. Ten fixed-group rounds reveal repetition among the same eight people. Ten rematched rounds reorganise groups while preserving each position and A or B membership; previous counterparts may recur. Rematching does not guarantee social unfamiliarity or remove previous experience. Nor does it make the same person's ten decisions independent.

The proposing country alternates by round: A in odd rounds and B in even rounds. The offer always expresses A's benefit, including when B proposes. This convention maintains a comparable variable but requires remembering that a high offer favours A and a low offer favours B. Conditional continuity or initial selection can change who negotiates; personal positions remain unchanged, and the role page announces the current function. Those institutions require fixed groups to preserve a clear meaning for selection and replacement.

1.5 Resources and understanding accounts

The allocable benefit is 100 ECU per encounter. It is neither a 100-ECU endowment for each participant nor a fund spendable outside the proposal. A receives x , and B receives $100 - x$. If implemented, each negotiator receives a base of 20 plus their country's benefit. Each legislator receives the same base and benefit, with an individual adjustment. Without implementation, everybody receives 50 ECU and adjustments do not apply. Extensions identify compensation or additional awards separately.

ECU means Experimental Currency Units. Before starting, the instructor must explain whether monetary incentives apply and how decisions are selected for payment. The delivered configuration does not automatically convert ECU into money. Instructions show effective session resources in the body, as well as summary cards. This matters when parameters are changed: a 100-ECU example must not replace the actually configured benefit.

The comprehension check asks about a hypothetical voter payment, the votes required by the person's own group, and whether acceptance suffices. The example uses that person's displayed adjustment and excludes compensation and continuity. A negotiator can answer because the role is explicitly hypothetical. Field-specific errors explain the correct answer and retain other responses. Correction does not reduce payment and should not become advice about which offer or vote to choose.

1.6 Suggested classroom sequence

Allow approximately sixty to seventy-five minutes for a first class including explanation, a reference encounter, and discussion. This is an instructional estimate awaiting a student pilot. Prepare devices, language, and groups before class. Use the opening minutes for general rules, resources,

and the accounting example. Let each person complete comprehension privately; individual support avoids revealing information that a variant deliberately conceals.

During decisions, announce only general transitions and operational issues. Do not say offers should fall within a particular interval, acceptance is more efficient, or an assembly should support its negotiator. Such statements alter the task by introducing strategic advice. If projecting the report, display progress only. Once all groups close, first ask what happened: offers, acceptance, and approval in each country. Then reveal aggregates and derive the monetary comparisons.

For a second class, choose a specific institutional contrast. Majority versus unanimity changes voting requirements. Public versus locally known adjustments compares information under the same type distribution. Fixed versus conditional continuity holds the additional award constant while changing replacement. All extensions need not be played in one session. A narrow question leaves time for mechanisms and interpretation instead of turning the class into a rushed tour of buttons.

1.7 Reconnection, privacy, and comparison limits

If someone loses connection, identify their original link and resume the same session. Do not assign another link to resolve a wait: it may duplicate enrolment and leave the required position vacant. The program records stages and submitted decisions; a confirmed choice cannot be changed from a later stage. Waiting pages are not questions and require no strategy. If someone permanently leaves, preserve the incomplete session and its records rather than imputing votes or payments.

Restarting the server to refresh code does not require deleting the database. This family's preview has its own instance and data; previous game instances remain separate. Do not use a database reset as an automatic remedy. Distinguish sessions with no decisions, partial play, and complete closure. Some variables in the first two states have no value yet and must not be interpreted as zero choices or rejections.

Classroom comparisons face limits from selection, learning, and composition. When the same group plays two rules in fixed order, differences may reflect experience as well as institutions. When initial selection is compared with fixed assignment, elected negotiators may differ from assigned ones. This guide supplies monetary benchmarks and interpretive questions; it does not turn a small class into a causal estimate about real diplomacy. Record order, parameters, and experimental units before attributing behavioural changes to treatment.

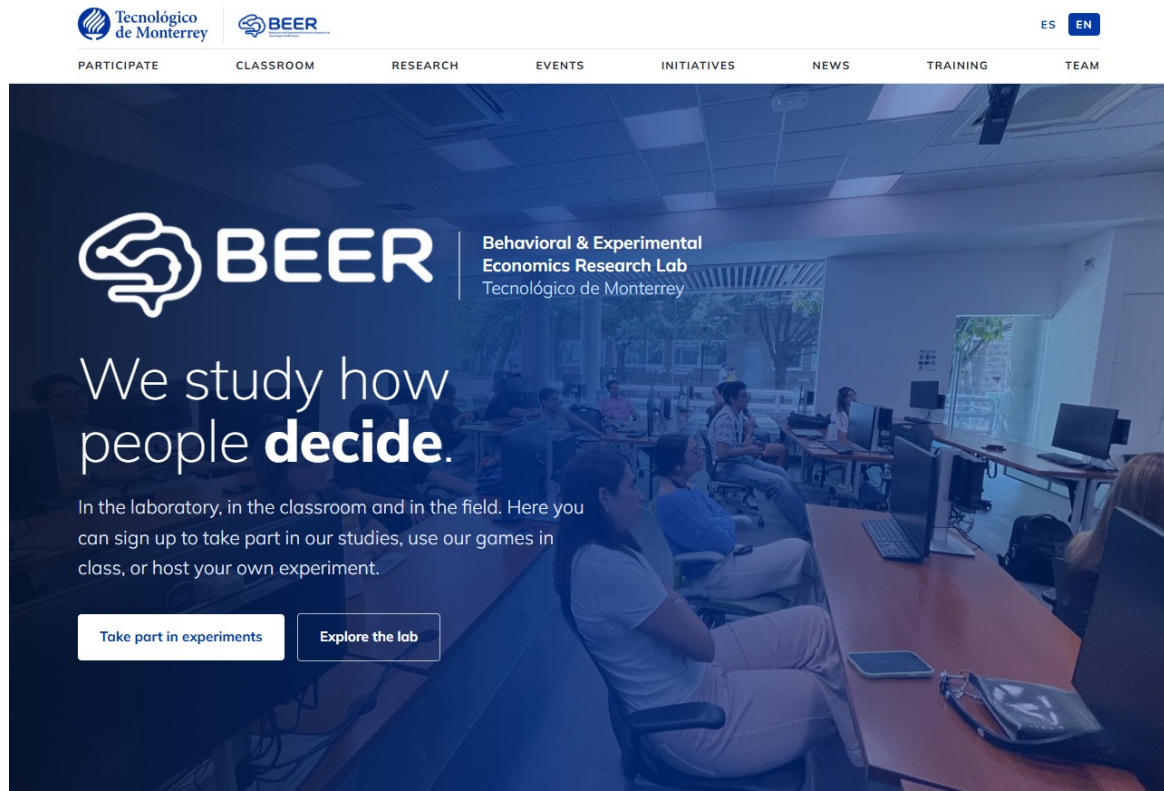


Figure 1.1: Institutional website: CLASSROOM entry.

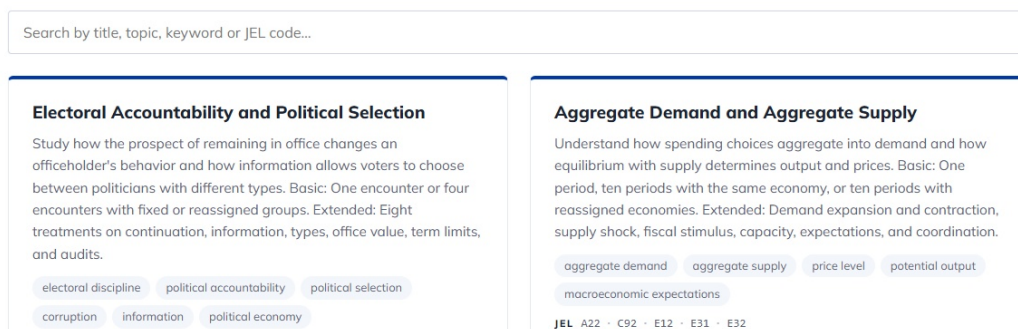
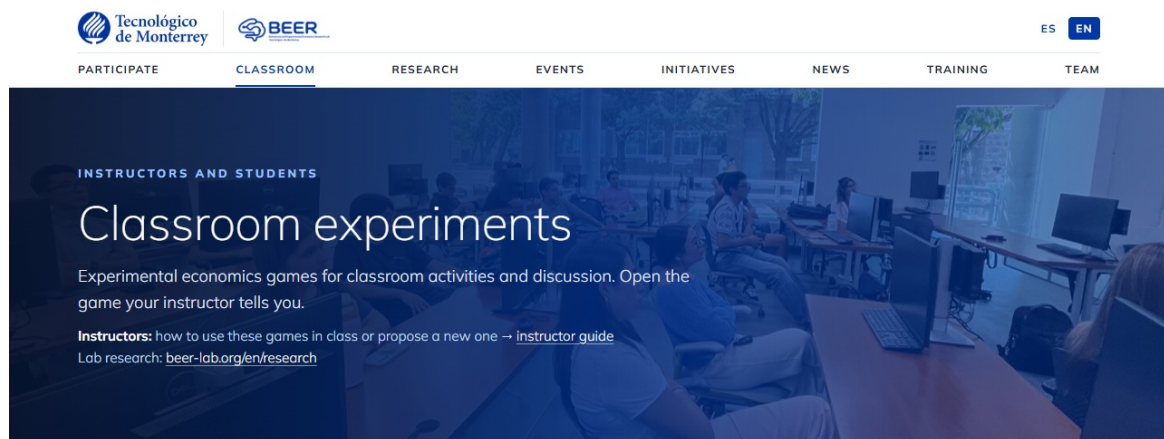


Figure 1.2: Existing catalog; family integration pending.

Demo

[ES] Diplomacia de dos niveles y ratificación doméstica — un encuentro
[ES] Diplomacia de dos niveles y ratificación doméstica — 10 rondas, grupo fijo
[ES] Diplomacia de dos niveles y ratificación doméstica — 10 rondas, grupos aleatorios
[ES] Extendido — Referencia de mayoría
[ES] Extendido — Unanimidad en ambos grupos
[ES] Extendido — Reglas de aprobación distintas
[ES] Extendido — Ajustes variables públicos
[ES] Extendido — Ajustes variables conocidos localmente
[ES] Extendido — Mínimos vinculantes
[ES] Extendido — Compensaciones condicionadas
[ES] Extendido — Compensaciones y unanimidad
[ES] Extendido — Continuidad fija y asignación adicional
[ES] Extendido — Continuidad condicionada a la aprobación
[ES] Extendido — Selección inicial del negociador
[EN] Two-level diplomacy and domestic ratification — one encounter
[EN] Two-level diplomacy and domestic ratification — 10 rounds, fixed group
[EN] Two-level diplomacy and domestic ratification — 10 rounds, random groups
[EN] Extended — Majority reference
[EN] Extended — Unanimity in both groups
[EN] Extended — Different approval rules
[EN] Extended — Public variable adjustments
[EN] Extended — Locally known variable adjustments
[EN] Extended — Binding minima
[EN] Extended — Conditional compensation
[EN] Extended — Compensation and unanimity
[EN] Extended — Fixed continuity and additional award
[EN] Extended — Continuity conditional on approval
[EN] Extended — Initial negotiator selection

Diplomacia de dos niveles y ratificación doméstica / Two-Level Diplomacy and Domestic Ratification — BEER Lab

Seleccione una variante de este juego. Select a version of this game.

Figure 1.3: Isolated Demo with twenty-eight configurations.

Rooms

Current rooms:

[ES] Diplomacia de dos niveles y ratificación doméstica
[EN] Two-level diplomacy and domestic ratification
[ES] Diplomacia de dos niveles y ratificación doméstica — Extendido
[EN] Two-level diplomacy and domestic ratification — Extended

Figure 1.4: Four family rooms.

Room: [EN] Two-level diplomacy and domestic ratification

Create a new session

Session Config

[EN] Two-level diplomacy and domestic ratification — one encounter

Number of participants

Complete groups of 8 participants. Use a multiple of 8; minimum 8.

Create

[Configure session](#) 

App sequence

two_level_diplomacy_game (10 rounds)

Two-Level Diplomacy and Domestic Ratification / Diplomacia de dos niveles y ratificación doméstica.

0 participants present

Start links

These URLs will stay constant for new sessions, even if the database is recreated.

Room-wide URL

Here is the room-wide URL anyone can use. Don't use this link when testing in multiple tabs on the same browser, because all tabs will be assigned to the same participant, using a cookie.

http://127.0.0.1:8200/room/diplomacy_en

Figure 1.5: Basic room with three configurations in the selected language.

Bargaining and ratification: reference theory

Theoretical foundation

The monetary region requires outside payments for both negotiators and enough legislators. It excludes the continuity award and predicts neither ballots nor knowledge.

2.1 Two levels of decision

Intergovernmental bargaining can produce a shared text without an implemented agreement. Domestic approval introduces actors with their own preferences and powers. Putnam (1988) organises this problem into international bargaining and internal ratification. His contribution offers a way to think about constraints and links between arenas, not the eight-person protocol programmed here. This activity is an original teaching adaptation that makes the offer, acceptance, and separate votes observable.

The first level contains two negotiators. Only one makes an offer in each encounter; the other accepts or rejects. There is no within-round counteroffer. The proposing country alternates across rounds, not after rejection. The second level contains two three-person assemblies. They vote simultaneously after acceptance without observing partial votes. Each vote counts for its own country. Agreement requires both approvals, so an aggregate international majority cannot replace two domestic majorities.

This distinction helps interpret failure. International rejection prevents observation of the votes that might have followed. Ratification failure reveals votes on an accepted offer but need not mean both countries rejected it. Five of six legislators voting yes may suffice under majority and fail under unanimity. Sequence and veto location matter as much as the total number of supporters.

2.2 Individual accounts and national benefit

Let x denote A's benefit, an integer between zero and one hundred. B receives $100 - x$. When reference allocation is implemented, A's negotiator receives $20 + x$, and each A legislator receives $20 + x + a_i$, where a_i is their adjustment. For B, replace x with $100 - x$. Each assembly's three adjustments are $-10, 0, 10$. Without implementation, everybody receives 50 and adjustments disappear. Disagreement is a complete alternative, not a loss to deduct again.

National benefit appears in four accounts per country. Dividing one hundred therefore does not

mean payments sum to one hundred. With agreement, eight bases total 160, national benefits total four times one hundred, and the six adjustments total zero. Reference joint payment is $160 + 400 = 560$. Without agreement it is $8(50) = 400$. The difference of 160 is this calibration's experimental implementation surplus; it does not measure actual national welfare or the social value of a historical treaty.

Resources renew each encounter. High payment in one round does not finance later offers or compensation. Applicable compensation is a conditional transfer within the same encounter's accounts. Additional continuity awards arise from a separate payment rule and are displayed separately. Keeping these components distinct prevents confusing an offer, an individual balance, and a collective total.

2.3 Worked example: equal allocation

Consider an offer of 50 for A and 50 for B. Each negotiator receives $20 + 50 = 70$. Within each country, the legislator with adjustment -10 receives 60, the zero-adjustment legislator receives 70, and the adjustment-10 legislator receives 80. Four country payments total $70 + 60 + 70 + 80 = 280$; all eight total 560. Every position does better than its alternative of 50, but individual payments are unequal: equality across countries can coexist with individual inequality.

Suppose B accepts and each assembly casts two favourable votes. Both meet the two-of-three majority, and allocation is implemented. If A casts two favourable votes and B only one, it is not implemented: everybody receives 50, including supporters and those who would have received 80 under agreement. The rule pays no unilateral national benefit when the other ratification is absent. If B rejects before voting, payments are also 50, but votes do not exist; exporting six zero votes would invent behaviour.

Use this example to ask why a monetarily favourable offer might receive a negative vote. Possible explanations include mistakes, distributional preferences, expectations that the other country will reject, or indifference when not decisive. The example identifies a payoff comparison, not a person's psychological motive. The report reveals votes and reconstructs incentives; identifying beliefs or intentions would require additional data not requested by this activity.

2.4 Individual thresholds and approval coalitions

An A legislator compares $20 + x + a_i$ with 50. Allocation is at least as attractive as disagreement when $x \geq 30 - a_i$. Adjustments $-10, 0, 10$ give thresholds of 40, 30, and 20. B's equivalent condition concerns its own benefit $100 - x$. A negotiator without compensation compares $20 + s$ with 50 and requires national benefit $s \geq 30$. This is a monetary comparison, not a restriction imposed by the offer form.

Majority needs only two legislators. The two lowest thresholds are 20 and 30, so a benefit of 30 permits a coalition of two voters monetarily willing to approve. The legislator with threshold 40 may be excluded. Under unanimity, the national threshold rises to 40 because every preference becomes a veto. Coalition composition matters: counting two supporters without relating them to adjustments loses the distributional structure.

If a voter can be decisive and the other assembly approves, voting yes enables implementation that they compare with disagreement. If they cannot affect the outcome, votes may be payoff-equivalent. The support prediction therefore uses a convention of voting yes at equality and is not a unique prediction of every strategy in every contingency. Conditional continuity adds another consequence to voting and requires separate analysis in its chapter.

2.5 Ratifiable region and proposer advantage

The ratifiable region contains offers compatible with sufficient monetary support in both countries and with negotiator incentives. Reference requires at least 30 for A and 30 for B. Since B receives $100 - x$, the region is $30 \leq x \leq 70$, containing 41 integer offers. It describes possibilities under known preferences and rules. It neither guarantees acceptance of all points nor proves students will reject outside offers. The report calculates it as a policy benchmark using stored preferences.

With own-payoff maximisation, complete information, and acceptance at indifference, A can propose 70 when controlling the offer. Its negotiator receives 90; B receives 30 and its negotiator 50. B legislators receive 40, 50, and 60, allowing two supporters. A legislators receive 80, 90, and 100. B has the symmetric advantage when proposing: offer 30 to A and retain 70 nationally. Alternation helps distinguish national distribution from agenda power.

This benchmark uses backward induction and specific assumptions. If an indifferent voter rejects, the endpoint may require an extra ECU; preferences for equality may move offers towards 50. Nor does the average of two consecutive offers establish symmetric bargaining: the same actors may learn or develop a norm. Record who proposed and, where useful, convert A's offer into proposer-country benefit before comparing rounds.

2.6 Efficiency, distribution, and evidence

In reference, every implemented agreement produces the same joint payment of 560, although distribution changes with x . A larger proposer share does not reduce efficiency according to that experimental sum. Monetary efficiency likewise does not imply everybody prefers the distribution. Agreement rates, offers, and votes answer different questions and should be discussed together.

Legislative-bargaining research supplies related evidence without replicating this activity's two assemblies. [Fr chet te et al. \(2012\)](#) study common benefits and particularistic allocations and find that observed proposer power can depart from the theoretical benchmark. This motivates attention to distribution and coalitions alongside efficiency averages. It does not predict a specific ratification frequency for this game: actor counts, benefits, and sequence differ.

A small class may produce near-equal offers, extreme agreements, or rejection of advantageous allocations. Before selecting an interpretation, reconstruct accounts and review comprehension. Then examine repetition, proposer position, support composition, and possible distributional preferences. Avoid describing every deviation as irrational. The model specifies incentives and conditions; classroom experience reveals behaviour under a particular implementation. Teaching becomes more informative when students compare these objects without conflating them.



BEER LAB · TEACHING GAMES

Allocation and approval in two groups

The Behavioral and Experimental Economics Research Lab (BEER Lab), at the Department of Economics of Tecnológico de Monterrey, offers controlled activities for learning about economic decisions.

In this activity you will make individual choices that may affect other people's accounts.

Laboratory rules

- Remain silent and do not communicate with other participants.
- Make individual, private decisions.
- Follow the instructions on each screen.
- Do not refresh, close, or leave the page.
- If you need help, raise your hand or contact staff privately.

Have you read and do you accept these rules?

☐ Yes

☒ No

Start

Figure 2.1: Welcome and laboratory rules.

Instructions

Resources and unit of account

A benefit of 100 ECU is divided between A and B once per round. This amount is not a personal spending account. If implemented, each person receives a base of 20 ECU plus the benefit assigned to their group. A voter adds their adjustment and any applicable compensation; a negotiator pays their group's compensation. If the allocation is not implemented, each person receives 50 ECU, without adjustments or compensation. Any applicable continuity award is added separately.

ECU means Experimental Currency Units. It is the unit of account for this activity; it does not by itself imply a cash payment or a grade.

ECU stands for Experimental Currency Units. It is the unit of account for this activity.

This session does not convert ECU into real money.

Benefit to allocate

100 ECU

Base if implemented

20 ECU

Payment without allocation

50 ECU

Votes required in your group

2 / 3

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

Position adjustments are public and remain fixed.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

There is one encounter with this group.

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

[Continue](#)

Figure 2.2: Resources and acceptance and ratification sequence.



ALLOCATION AND APPROVAL IN TWO GROUPS - ROUND 1 OF 1

Comprehension check

Resources and unit of account

ECU stands for Experimental Currency Units. It is the unit of account for this activity.

This session does not convert ECU into real money.

Answer using the displayed example. Corrections do not reduce your account and retain your other answers.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

What would your voter payment be in the example if implemented?

How many of three votes does your group require for approval?

Does acceptance by the other negotiator alone guarantee implementation?

Continue

Figure 2.3: Comprehension of payments, required ballots, and absence of guarantee.



ALLOCATION AND APPROVAL IN TWO GROUPS · ROUND 1 OF 1

Comprehension check

Resources and unit of account

ECU stands for Experimental Currency Units. It is the unit of account for this activity.

This session does not convert ECU into real money.

Answer using the displayed example. Corrections do not reduce your account and retain your other answers.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

What would your voter payment be in the example if implemented?

Your answer: 0. The correct answer is 70. The example applies $20 + 50 + (0) = 70$ ECU, without compensation or an additional award.

How many of three votes does your group require for approval?

Does acceptance by the other negotiator alone guarantee implementation?

Your answer: Yes. The correct answer is No. Acceptance also requires applicable binding minima to be satisfied and both assemblies to approve.

Continue

Figure 2.4: Question-specific correction retains correct answers.

Your role in this round

Benefit to allocate

100 ECU

Base if implemented

20 ECU

Payment without allocation

50 ECU

Votes required in your group

2 / 3

Your position is A1. In this round you act as Negotiator for group A.

Your adjustment when voting: 0 ECU.

Your individual adjustment does not apply to the allocation payment while you negotiate.

There is one encounter with this group.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

Position adjustments are public and remain fixed.

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

[Continue](#)

Figure 2.5: Own position and role before decisions.

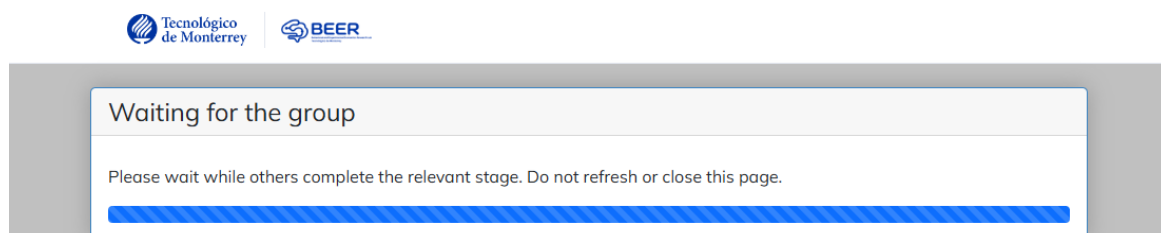


Figure 2.6: Neutral wait for the common stage.

Allocation offer

Benefit to allocate

100 ECU

Base if implemented

20 ECU

Payment without allocation

50 ECU

Votes required in your group

2 / 3

Enter A's benefit. B automatically receives 100 minus that amount. Group A's negotiator makes this offer.

Position adjustments are public and remain fixed.

Benefit assigned to group A (ECU)

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

[Confirm decision](#)

Figure 2.7: The offer always records A's allocation.



ALLOCATION AND APPROVAL IN TWO GROUPS - ROUND 1 OF 1

Offer acceptance

A's benefit

50 ECU

B's benefit

50 ECU

Your allocation payment if implemented: **70 ECU**.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

Position adjustments are public and remain fixed.

Do you accept submitting this allocation to both assemblies?

☐ Yes

☐ No

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

Confirm decision

Figure 2.8: Acceptance before submitting the agreement to ballots.

Your group's vote

A's benefit

50 ECU

B's benefit

50 ECUYour allocation payment if implemented: **60 ECU**.

You vote simultaneously with the other five people acting as voters. Nobody sees partial responses. Your vote counts only for your own group.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

Position adjustments are public and remain fixed.

Do you approve this allocation?

☐ Yes

☐ No

[Confirm decision](#)

Figure 2.9: Ballot with proposed payment and own requirement.

Round result

Both assemblies approved and the allocation was implemented.

Your round payment

70 ECUAllocation or disagreement
payment**70 ECU**

Additional continuity award

0 ECU

A's benefit: 50 ECU - B's benefit: 50 ECU.

Favourable votes in A: 3 / 3 - Favourable votes in B: 3 / 3.

Joint payment for all eight positions: 560 ECU.

[Continue](#)

Figure 2.10: Country approvals and own payment.



ALLOCATION AND APPROVAL IN TWO GROUPS · ROUND 1 OF 1



Session complete

The activity has ended. Keep this screen open and await the instructor's directions.

Sum of your payments (ECU) **70 ECU**

Figure 2.11: Persistent final page and payment sum.

Approval rules and information

What participants will see

The screen identifies the proposer, whose allocation is offered, each group's requirement, and disclosed adjustments. Partial ballots remain hidden.

3.1 Majority and unanimity

The rule comparison retains the hundred-unit benefit, twenty-unit base, fifty-unit alternative, and fixed reference adjustments. It changes how many of three votes each country requires. Majority needs two, unanimity three. A and B support is not pooled into one international assembly. Both countries must approve, and unanimity gives every legislator a veto.

Derive the region using identical accounts. The most demanding legislator needs national benefit of forty. If everybody must support, A needs $x \geq 40$ and B needs $100 - x \geq 40$. The region runs from forty to sixty, with twenty-one integer offers rather than forty-one under majority. A monetary proposer can retain sixty nationally instead of seventy, assuming support at equality. The rule can redistribute the compatible proposal while placing more offers outside the region.

Observe acceptance and ratification rates separately. A demanding rule may induce a negotiator to offer a more balanced allocation and avoid domestic rejection, even while reducing available opportunities. A lower observed agreement rate does not follow automatically. Compare offers inside and outside the region, vote composition, and support breadth. An extra favourable vote may be essential under unanimity and redundant under majority, changing incentives even when the same proposal is observed.

3.2 Different rules across countries

The different-rules configuration requires majority in A and unanimity in B. It shows that country symmetry is not an automatic feature of the game. Benefit, base, and adjustments remain equal, but B must satisfy its forty-threshold legislator while A can approve with the twenty- and thirty-threshold voters. The joint benchmark is $30 \leq x \leq 60$, containing thirty-one integer offers.

If A proposes and retains sixty, B receives forty: B's negotiator obtains sixty, and its legislators fifty, sixty, and seventy. If B proposes thirty for A, it retains seventy, and both countries can ratify under their respective rules. B's domestic constraint narrows the region and may improve its share when bargaining with A. This depends on overlap remaining; increasingly demanding constraints that eliminate overlap destroy agreement rather than extract concessions.

Use proposing country and effective requirements in the report. An A offer of sixty has a different interpretation when A proposes than when B does. Compare proposer-country benefit and the benefit of the country subject to unanimity. Ask which position is necessary for approval and what it would receive under majority. Institutional asymmetry can explain distributional differences without changing individual preferences; recognising this avoids attributing rule-generated effects to personal characteristics.

3.3 Variable adjustments and encounter-specific regions

In variable-adjustment configurations, each position independently receives an equally likely draw from $-20, -10, 0, 10, 20$ ECU at the start of a round. Adjustments are saved before choices; payment or report viewing does not redraw them. An adjustment applies only when the person serves as legislator. Negotiators retain base plus national benefit. Distribution and horizon are identical across the two information treatments.

The region is no longer fixed across rounds. Suppose both countries' three legislators have adjustments $-20, -10, 0$. Their national thresholds are fifty, forty, and thirty; majority needs forty. Negotiators need thirty, a weaker constraint here. The region is $40 \leq x \leq 60$. In a different round with adjustments $-10, 10, 20$, an assembly needs only twenty, but its negotiator still needs thirty. A less demanding assembly does not remove negotiator acceptance incentives.

Compare actual preferences rather than treatment labels alone. Sessions with different draws may differ in difficulty while disclosing identical information. The report reconstructs the monetary region using positions that actually voted. To compare public and local information, account for adjustment composition or condition results on region width. Variation supports discussion of uncertainty and heterogeneity but requires abandoning the single thirty-to-seventy calculation as a description of every encounter.

3.4 Public constraints and local knowledge

Under public information, all eight positions see adjustment tables for both countries. Under local knowledge, each person knows all four adjustments in their own country, including their negotiator's adjustment if acting as a voter. Foreign adjustments appear as undisclosed. Their possible distribution is explained, but the foreign draw is not revealed before or after the outcome. This does not represent private information unshared within a country; it represents uncertainty about the counterpart's constraints.

Payments and approval rules do not change across these configurations. Available information at proposal, acceptance, and voting does. A negotiator may know their own coalition well while not knowing which offer permits the other coalition to form. The instructor can reconstruct the actual region afterwards; that complete calculation was unavailable to decision makers. Retrospective display does not establish that negotiators anticipated it.

Milner and Rosendorff (1996) analyse information and domestic groups in international bargaining. Their model supports questions about constraints and knowledge but does not specify these draws or this interface. The teaching comparison retains one adjustment distribution and varies disclosure. If local knowledge produces fewer agreements, examine changes in offers, acceptance, or ratification and check profile comparability. Without elicited beliefs, do not claim a negotiator overestimated a particular constraint: describe the decision and the information actually available.

3.5 Observed votes, preferences, and counterfactual support

An adjustment is an account parameter, not an ideological survey response. Its monetary threshold follows from that parameter and disagreement. A vote is an observed decision. The region assumes support when implementation pays at least the alternative, conditional on the vote mattering and foreign approval. These objects can differ. A legislator offered enough may reject; one offered less may approve because of social preferences, expectations, error, or another unmeasured reason.

Votes exist only when binding minima are met and international acceptance occurs. Calculating yes percentages across all groups would wrongly include nonvoting cases if missing fields were filled with zero. Use actual voters as the denominator and accepted, compatible offers for ratification. Selection into voting may also change across treatments. High domestic approval may reflect negotiators filtering difficult proposals before that stage.

The report separates assemblies and displays payments by country and role. Reconstruct monetary support from actual adjustments and compare the observed coalition. Ask what would make a vote decisive or another offer obtain two supporters. These are model counterfactuals, not new observations. Do not impute missing choices or alter recorded parameters to force agreement between prediction and outcome. Discrepancies provide useful discussion once comprehension and operation have been checked.

3.6 Comparing information without conflating treatments

Reference uses fixed public adjustments. Public-variable and local-variable treatments share draws but differ in disclosure. Comparing reference with local-variable information changes heterogeneity and information simultaneously, so it does not isolate privacy. The public-variable control retains the constraint distribution when studying observability. Configuration count follows a useful comparison, not a target of accumulating variants.

One teaching strategy uses hypothetical encounters with the same profile: derive the complete-information region, then ask what each negotiator knows without seeing the other country. The formula is unchanged, but the decisions justified by available information may differ. In actual separate sessions, record encounter profiles and use the report to group broad or narrow regions. Equal ex ante distributions do not mean identical realised draws.

End discussion with a concrete institutional question: which information helps anticipate ratification, and who observes it? Do not conclude all transparency raises cooperation or every domestic constraint improves international leverage. Disclosure may support compatible proposals, while strong restrictions may reduce or eliminate opportunities. The game examines those possibilities under known rules. Generalising to actual treaties requires evidence about representation, communication, outside options, and enforcement, dimensions deliberately simplified in this adaptation.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 3 of three votes in A and 3 of three votes in B. Negotiators do not vote on ratification.

The configured requirement is 3 of three votes in A and 3 of three votes in B.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 3.1: Three ballots required per country.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 2 of three votes in A and 3 of three votes in B. Negotiators do not vote on ratification.

A uses a requirement of 2 votes and B one of 3, always among three voters.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 3.2: A requires two ballots and B three.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

At the start of each round, each position receives an adjustment drawn from -20, -10, 0, 10, 20 ECU. Both groups' tables are disclosed. An adjustment applies only while that person acts as a voter.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 10 ECU. Without compensation or an additional award, you would receive $20 + 50 + (10) = 80$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 3.3: Public adjustments for all positions.

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	10
A2	A	Voter	20
A3	A	Voter	-20
A4	A	Voter	20
B1	B	Negotiator	Not disclosed
B2	B	Voter	Not disclosed
B3	B	Voter	Not disclosed
B4	B	Voter	Not disclosed

Figure 3.4: Four foreign adjustments undisclosed.

Mandates and compensation

4.1 Individual statements and binding minima

Binding minima introduce a domestic decision before bargaining. Each of three legislators states the minimum national benefit they request, between zero and one hundred ECU. All six responses are simultaneous and remain hidden until everyone responds. The median of each country's three responses is then calculated, and both minima are disclosed. Negotiators do not submit a statement at this stage and cannot revise the minima when constructing their offer.

The median prevents one isolated extreme response from automatically determining the mandate. If A states twenty, forty, and eighty, its minimum is forty. If two legislators state sixty, the third cannot lower the median below sixty by stating a low number. This translates expressed demands into a formal bargaining constraint. A stated minimum does not replace the threshold derived from the account: people may request more or less than their monetary requirement.

The offer form still allows any integer from zero to one hundred. Breaching either minimum records mandate failure, skips the other negotiator's acceptance and voting, and pays everybody fifty. Meeting both minima leads to ordinary acceptance and ratification. This institutional consequence makes the mandate binding; compatibility does not guarantee approval. Distinguish formal compliance, monetary support, and actually cast support.

4.2 Intersecting constraints and a complete example

Write A and B minima as m_A and m_B . Formal compatibility requires $x \geq m_A$ and $100 - x \geq m_B$, or $m_A \leq x \leq 100 - m_B$. With reference adjustments and majority, the monetary thirty-to-seventy region also matters. The joint benchmark is the intersection of those intervals. Each mandate being feasible separately does not establish joint feasibility.

Suppose A requires forty and B fifty. Formal compatibility permits offers from forty to fifty. An offer of forty-five leaves fifty-five for B. Negotiators would receive sixty-five and seventy-five; A legislators fifty-five, sixty-five, and seventy-five; B legislators sixty-five, seventy-five, and eighty-five. All exceed fifty, and joint payment remains five hundred and sixty. Those payments apply if assemblies approve.

An offer of sixty for A leaves forty for B and breaches B's minimum of fifty. Everybody receives fifty without votes. If both minima are sixty, combined demands total one hundred and twenty against a benefit of one hundred: no formally compatible offer exists. The report records an empty region and distinguishes this failure from negative voting. An empty region follows from recorded constraints; it does not prove someone deliberately intended to block cooperation.

4.3 Constraints as leverage and obstacles

A mandate can restrict negotiator acceptance and make a constraint visible to the counterpart. If A demands forty instead of thirty, B's previously compatible thirty-for-A proposal becomes incompatible. While enough benefit remains for both, B may need to concede more. If both countries raise minima simultaneously, however, agreement can disappear. A constraint can redistribute feasible offers while reducing implementation opportunities.

This concretely illustrates domestic commitments within a two-level perspective without claiming rigidity always improves international leverage. Observe chosen minima, offer compliance, proposing country, and subsequent acceptance and ratification. A high mean minimum alone does not establish an effective mandate: widespread disagreement may follow. Relevant comparisons include benefit distribution among agreements and lost opportunities.

The programmed institution uses the median of statements and automatic rejection of incompatible offers. It includes no debate, actual constitutional delegation, personal noncompliance fine, or within-round mandate revision. Explain these simplifications before connecting classroom experience to historical cases. Discussing an informational-only or revisable mandate is useful counterfactual reasoning, but those possibilities are not available treatments or decisions participants actually made.

4.4 Compensation: recipients and financing

A compensation offer contains A's benefit and six allocations, one per legislator. Each allocation ranges from zero to twenty ECU. Once confirmed, the package is disclosed: the other negotiator and voters see recipient-specific amounts. A's compensation total cannot exceed A's benefit, and the same constraint applies to B. Validation rejects incompatible budgets and retains fields for correction.

If implemented, compensation is deducted from each country's negotiator payment and added to recipient payments. It is not deducted from the common benefit received by legislators or financed by the other country. For example, five for a B legislator costs B's negotiator five. Without implementation, compensation is neither paid nor collected: everybody receives the alternative, unless another explicitly active rule applies. Presenting the package creates no sunk expenditure.

This changes internal distribution without changing the collective total through transfers. International bargaining still determines each country's common benefit. A proposer must consider that financing support may worsen the other negotiator's account and prompt rejection before voting. The treatment connects coalitions and particularistic distribution, questions studied experimentally by [Fréchette et al. \(2012\)](#), but uses a different teaching architecture with two linked negotiators and assemblies.

4.5 Compensation example under majority

Consider sixty-five for A and thirty-five for B. Without compensation, B's negotiator receives fifty-five and legislators forty-five, fifty-five, and sixty-five. Two legislators receive more than fifty, so monetary majority support is possible; the first falls below the alternative. Five targeted to that legislator raises their payment to fifty and reduces the negotiator's to fifty. All three can now support under the equality convention.

A still pays its negotiator eighty-five and its legislators seventy-five, eighty-five, and ninety-five. B pays fifty, fifty, fifty-five, and sixty-five. A totals three hundred and forty, B two hundred and

twenty; joint payment remains five hundred and sixty. Compensation changes distribution and broad-support possibilities without creating resources. If B rejects or ratification fails, all eight receive fifty and the transfer is not executed.

Under majority and reference adjustments, compensation cannot extend the region beyond thirty to seventy because both negotiators already need thirty before financing transfers. It may narrow the region by reducing their incomes. Do not promise compensation always increases agreement. It may include an otherwise excluded legislator, address distributional preferences, or alter support within an existing region. Amounts and support are observable, but proposer intentions are not identified automatically.

4.6 Compensation under unanimity

Compensation with unanimity retains the funded package but requires three votes in both countries. Its relevant control is unanimity without compensation, whose reference region is forty to sixty. Transfers can now satisfy the most demanding legislator, provided the negotiator also prefers the package to disagreement. This combination supplies a distinct comparison from compensation under majority; it is not included to meet an extension quota.

Give five to each country's negative-adjustment legislator and zero to everyone else. Each negotiator needs national benefit of at least thirty-five to retain fifty after the cost. The most demanding legislator also needs thirty-five: $20 + 35 - 10 + 5 = 50$. This package's region runs from thirty-five to sixty-five, with thirty-one integer offers. With thirty-five for A and sixty-five for B, payments are 50, 50, 55, 65 in A and 80, 80, 85, 95 in B; together they total five hundred and sixty.

Expansion follows from this particular package and parameters. Poorly targeted or excessive transfers can narrow the region again. Compare the two unanimity configurations, then ask why the same instrument serves a different purpose under majority. Financing support is not costless: it runs through the negotiator's account. Distinguish expanded monetary opportunities from actual acceptance rates, which depend on observed choices.

4.7 Questions contrasting commitment and transfer

Mandates and compensation alter different objects. A mandate adds a formal constraint chosen before proposing; it does not directly change payment formulas. Compensation changes income distribution upon implementation; it replaces neither votes nor acceptance. These are separate delivered treatments. There is no automatic combined treatment, and their comparison should not be described as changing one numerical variable.

Ask the class to construct two verifiable accounts. For a mandate, identify statements, median, compatible offer, and failure cause. For compensation, identify recipients, nationally funded total, negotiator net payment, and achieved support. In both cases ask what opportunity remains for the counterpart. A high demand may be credible and eliminate overlap; a transfer may help a voter while making the package unacceptable to the negotiator.

Conclude with a design problem: redistribute benefit while preserving two approvals and budget feasibility. Solutions should show accounts and conditions rather than simply recommending generosity or toughness. Use unanimity to illustrate a mutually compatible transfer and sixty-unit minima in both countries to illustrate formal impossibility. This connects bargaining and institutions without automatically attributing failure to bad intentions.



ALLOCATION AND APPROVAL IN TWO GROUPS · ROUND 1 OF 1

Minimum for your group

Benefit to allocate	Base if implemented	Payment without allocation	Votes required in your group
100 ECU	20 ECU	50 ECU	2 / 3

Before the offer, each voter states a minimum group benefit between 0 and 100 ECU. Each group's binding minimum is the median of its three responses. Both minima are then disclosed. An offer breaching either minimum is not implemented and does not proceed to acceptance or voting. A compatible offer still needs acceptance and approval by both assemblies.

Your response is combined with the other two voters' responses using the median. Partial responses remain hidden.

Your minimum group benefit (ECU)

Confirm decision

Figure 4.1: Minimum declared by each legislator.

Enter A's benefit. B automatically receives 100 minus that amount. Group A's negotiator makes this offer.

The offer discloses compensation from 0 to 20 ECU for each voter. A group's compensation total cannot exceed its allocated benefit. Compensation is paid only if implemented: it is deducted from that group's negotiator payment and added to the recipient voter's payment.

Benefit assigned to group A (ECU)

Compensation for A2 (ECU)

Compensation for A3 (ECU)

Compensation for A4 (ECU)

Compensation for B2 (ECU)

Compensation for B3 (ECU)

Compensation for B4 (ECU)

Figure 4.2: Offer and six compensation amounts funded by negotiators.

Offer acceptance

A's benefit

50 ECU

B's benefit

50 ECUYour allocation payment if implemented: **55 ECU**.

Compensation paid by your negotiator: 15 ECU · Your compensation if implemented: 0 ECU.

Position	Your compensation if implemented
A2	5 ECU
A3	5 ECU
A4	5 ECU
B2	5 ECU
B3	5 ECU
B4	5 ECU

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

The offer discloses compensation from 0 to 20 ECU for each voter. A group's compensation total cannot exceed its allocated benefit. Compensation is paid only if implemented: it is deducted from that group's negotiator payment and added to the recipient voter's payment.

Do you accept submitting this allocation to both assemblies?

☐ Yes☐ No

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

Figure 4.3: Complete package public before acceptance.

Your group's vote

A's benefit

50 ECU

B's benefit

50 ECU

Your allocation payment if implemented: **75 ECU**.

Compensation paid by your negotiator: 15 ECU · Your compensation if implemented: 5 ECU.

Position	Your compensation if implemented
A2	5 ECU
A3	5 ECU
A4	5 ECU
B2	5 ECU
B3	5 ECU
B4	5 ECU

You vote simultaneously with the other five people acting as voters. Nobody sees partial responses. Your vote counts only for your own group.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

The offer discloses compensation from 0 to 20 ECU for each voter. A group's compensation total cannot exceed its allocated benefit. Compensation is paid only if implemented: it is deducted from that group's negotiator payment and added to the recipient voter's payment.

Do you approve this allocation?

- ☐ Yes
☐ No

Confirm decision

Figure 4.4: Six compensation amounts visible before ballots.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 3 of 3 votes in A and 3 of 3 votes in B. Negotiators do not vote on ratification.

The offer discloses compensation from 0 to 20 ECU for each voter. A group's compensation total cannot exceed its allocated benefit. Compensation is paid only if implemented: it is deducted from that group's negotiator payment and added to the recipient voter's payment.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 4.5: Compensation under unanimity.

Negotiator selection and continuity

5.1 A fixed-continuity control

Fixed continuity retains each country's negotiator for six rounds and adds twenty ECU to their account when every encounter closes. It is paid with agreement or disagreement, including the last round. Legislators receive no additional award. Allocation payment remains base plus national benefit for negotiators and base plus benefit plus adjustment for voters. The award appears as a separate result component.

With an implemented equal allocation, each negotiator receives seventy from policy plus twenty from continuity, totalling ninety. Each assembly retains payments of sixty, seventy, and eighty. Joint payment rises from five hundred and sixty to six hundred because two twenty-unit awards are added. Without implementation, negotiators receive seventy and legislators fifty, totalling four hundred and forty. First-round implementation surplus remains one hundred and sixty even though payment levels change.

This is the conditional-continuity control. Comparing conditional continuity directly with reference would change replacement rules and award existence together. The control retains the award while altering its recipient according to approval. Fixed tenure does not exempt a negotiator from acceptance or ratification: both domestic approvals remain necessary for implementation, although they no longer affect continuity.

5.2 Ratification and conditional replacement

Under conditional continuity, an assembly falling short of required votes after acceptance replaces its own negotiator. The role moves to the country's next position in circular order: one to two, two to three, three to four, and four to one. No simulated candidate or extra person is needed. The recipient was one of the three actual voters and negotiates from the following round; the former negotiator becomes a voter.

The condition concerns domestic approval, not global implementation. If A approves and B fails, A retains its negotiator and B replaces its own; nobody receives allocation. If both fail, both change. If acceptance is rejected, no votes occurred and neither negotiator is replaced. This can give negotiators a reason to filter proposals before risky ratification. The report distinguishes trajectories instead of describing every failure as loss of confidence.

The position designated to negotiate the next round receives an additional twenty ECU when the current round closes. This is also paid in the last round: it is an explicitly defined continuity prize, not an assumed future income that silently disappears at termination. There is no subsequent election or implicit salary. Replacement, award recipient, and horizon are settled and visible before

choices.

5.3 Unilateral failure and payment example

Start with A1 and B1 negotiating and an accepted fifty-fifty offer. Suppose A obtains one favourable vote and B two. B approves, A does not, and allocation fails. A2 becomes the next negotiator while B1 remains. Disagreement pays all eight fifty. Add twenty to A2 and twenty to B1. Final accounts are 50, 70, 50, 50 in A and 70, 50, 50, 50 in B, totalling four hundred and forty.

A2 still served as legislator in that round: the award does not retrospectively change who proposed or voted. Next round A2 negotiates and A1 votes. A2's personal adjustment, negative while legislating, does not apply while negotiating; A1's adjustment is zero when voting. Replacement does not redraw personal preferences. It changes which position serves each role and hence which adjustments enter legislative payments.

If acceptance had been rejected before voting, A1 and B1 would remain and receive the twenty-unit awards. Joint payment would still be four hundred and forty, with a different distribution. Equal collective payment can therefore conceal changes in authority. Use individual accounts, failure cause, and next negotiator to explain the mechanism; the collective mean alone cannot reconstruct it.

5.4 Continuity incentives and pivotal voting

The award introduces a voting consequence separate from policy payment. Domestic approval can preserve the incumbent's authority and award. For the designated successor, domestic failure may yield the prize and future proposing access. Legislators do not share identical interests in replacement. Successor identity follows circular order and must inform interpretation of votes.

In the first encounter, A2 has a negative adjustment. Equal implemented allocation pays sixty without an award because A1 remains. If A2's negative vote were decisive in causing A to fail, A2 would receive fifty from disagreement plus twenty from continuity, totalling seventy. In that contingency, failure may be preferred even though sixty exceeds the policy alternative of fifty. If both other legislators approve, A2's vote cannot cause replacement and this comparison is no longer pivotal.

The report therefore explicitly excludes continuity awards from its region: it describes a monetary policy benchmark, not all institutional incentives. [Diermeier and Feddersen \(1998\)](#) show how linking legislative decisions with future agenda control can alter cohesion. This adaptation uses circular succession and an explicit prize; it does not reproduce their governing-coalition model. Its prediction must not be transferred automatically to classroom votes.

5.5 Experimental evidence and adaptation scope

[Tergiman \(2015\)](#) experimentally examines confidence procedures, public goods, and particularistic allocations. In that design, stronger cohesion can coexist with lower public-good provision and a different benefit distribution. Linking survival and policy therefore need not automatically improve efficiency. The paper concerns another protocol and was published in 2015; its later incorporation into an editorial platform does not make the findings new evidence.

Our game retains international bargaining and two ratifications. Replacement follows the domestic chamber's outcome and deterministic succession, with an award potentially benefiting a voter

successor. It includes no parties, persistent governing coalitions, later national elections, or budget choices between public and particularistic goods. These differences matter. The evidence motivates the institutional question but supplies neither an expected replacement frequency nor an agreement-effect magnitude for this implementation.

Begin fixed-versus-conditional comparison with the first round, when positions and active adjustments coincide. In later rounds, replacement can endogenously change who legislates. Record incumbents, successors, and adjustments actually entering accounts. The institution generates this dynamic; it would be incorrect to claim all potential payments remained identical throughout six rounds. Distinguishing award level, authority rule, and subsequent composition supports precise interpretation.

5.6 Initial selection by ballot

Initial selection lets all four people in each country choose their negotiator before the first offer. Each selects one of their four positions, including themselves. The most-voted position wins, with any tie favouring the lower position number. A and B selection is simultaneous, and partial responses remain hidden. Current roles are then announced before bargaining starts.

There is no external candidate, invented platform, or automatic software vote. All four positions are real participants with public personal adjustments. The selected person negotiates for six rounds, while the remaining three ratify. No continuity award from the previous treatments is added. Selection changes access to negotiation but does not give the winner control over legislative votes or authority to decide for others.

With reference adjustments 0, -10, 0, 10 across four positions, the median adjustment among three remaining legislators is zero whoever is selected. Majority's thirty-to-seventy region therefore does not mechanically change when another position wins. Proposer identity, payment distribution, and behaviour may change. The selected person's adjustment no longer applies while negotiating. This avoids promising a constraint shift absent from the calibration and directs discussion towards observed representation, access, and selection.

5.7 Ties, composition, and selection comparisons

If A ballots choose A1, A2, A3, and A4, the one-vote tie selects A1. If three choose A2, A2 wins. Tie-breaking is an announced rule, not a priority discovered after voting. It can favour the lowest numbered position when everybody self-votes. Record the selection distribution rather than describing every winner as majority-supported: a two-vote plurality can win when the others split.

Suppose negative-adjustment A2 is selected and B retains B1. Under equal agreement, A2 receives seventy as negotiator; A1 and A3 receive seventy as zero-adjustment voters, and A4 eighty. B retains seventy, sixty, seventy, and eighty. Joint payment is five hundred and seventy because A2's negative adjustment is no longer active. No transfer was created; role changes altered the set of applied adjustments.

Comparison with fixed assignment includes endogenous selection of people. Observe winners, offers, acceptance, and votes without attributing differences exclusively to legitimacy or mandate; those beliefs are not elicited. Ask whether selection coincided with the position controlling more favourable offers or greater agreement frequency. Conclusions must consider sample size, tie-breaking, and the distinction between initial selection and succession conditional on ratification.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

Each group's negotiator retains that role throughout all rounds and receives an additional 20 ECU award when each round closes, whether or not allocation occurs. Nobody else receives this award.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is 0 ECU. Without compensation or an additional award, you would receive $20 + 50 + (0) = 70$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 5.1: Award and recipient with fixed continuity.

Eight people form two groups, A and B, with four people each. One negotiator and three voters per group make decisions. The proposing group alternates: A in odd rounds and B in even rounds. The other negotiator accepts or rejects. If accepted and binding minima are met, both assemblies vote. The allocation is implemented only if both approve.

Approval requires 2 of three votes in A and 2 of three votes in B. Negotiators do not vote on ratification.

If acceptance occurred and a group falls short of the required votes, its negotiator changes: the role moves to the next position within that group in circular order (1, 2, 3, 4, 1). An approving assembly retains its negotiator even if the other group fails. Rejection at acceptance does not cause replacement. At closure, the position designated to negotiate the next round receives an additional 20 ECU. This award is paid in the final round too.

Accounting example: suppose you act as a voter, your group receives 50 ECU, and your adjustment is -10 ECU. Without compensation or an additional award, you would receive $20 + 50 + (-10) = 60$ ECU if implemented. Otherwise you would receive 50 ECU.

There are 6 rounds with the same eight people. Positions are retained; the negotiator role may change if the rule specifies it.

Figure 5.2: Continuity conditional on domestic approval.



ALLOCATION AND APPROVAL IN TWO GROUPS - ROUND 2 OF 6

Round result

B's assembly did not approve; allocation was not implemented.

Your round payment

70 ECU

Allocation or disagreement
payment

50 ECU

Additional continuity award

20 ECU

A's benefit: 75 ECU - B's benefit: 25 ECU.

Favourable votes in A: 3 / 3 - Favourable votes in B: 1 / 3.

A's next negotiator: A1 - B's next negotiator: B2.

Joint payment for all eight positions: 440 ECU.

Continue

Figure 5.3: Current succession and award when B fails approval.

Negotiator selection

Before the first offer, all four people in each group simultaneously select one of their four positions as negotiator. Self-voting is allowed. The position with the most votes wins; ties favour the lower numbered position. Selection is retained for all rounds. The other three people vote on ratification.

Position you select as your group's negotiator

Position	Group	Role	Adjustment when acting as a voter
A1	A	Negotiator	0
A2	A	Voter	-10
A3	A	Voter	0
A4	A	Voter	10
B1	B	Negotiator	0
B2	B	Voter	-10
B3	B	Voter	0
B4	B	Voter	10

Confirm decision

Figure 5.4: Selection among four real positions.

Data, discussion, and assessment

Attention

An absent ballot is not a No. A pending payment is not zero. State offer, acceptance, ballot, and encounter denominators before comparing rates.

6.1 Reading the private report

The instructor report belongs to the administrative area. On opening, it displays progress while keeping aggregates hidden. The reveal button exposes them for discussion and retains that state when the same tab reloads; the hide button removes them again. This separation helps prevent partial results from influencing remaining decisions. Do not leave the report publicly projected while ballots remain open. Administrative authentication and visual concealment serve different functions: hiding a panel does not replace controlling who may enter.

The progress denominator counts groups multiplied by active rounds. Two groups completing six rounds generate twelve encounters; a one-encounter session generates two. Additional internal rounds used by the application to accommodate its maximum horizon do not belong to that denominator. After both groups complete their first round, a six-round session displays two out of twelve, rather than two agreements among sixteen people. Participant counts and encounter counts answer different questions.

The offer distribution counts completed proposals by encounter, always using A's allocation on its horizontal axis. Distinguish that denominator from acceptance opportunities: a proposal violating a mandate closes before the international decision. Ballot distributions have another eligible population: six legislators only when a proposal reaches ratification. Position and country tables identify payment differences; colours distinguish A and B without attaching merit to a role. Present quantities and their reference population before comparisons. A low agreement rate and a low acceptance rate need not describe the same obstruction, particularly when some proposals never reached the acceptance stage.

6.2 Failure causes and monetary region

Classify outcomes by the first stage preventing implementation. A mandate violation precedes acceptance and ballots; an international rejection precedes both assemblies; failed ratification identifies A, B, or both. An absent ballot must not be counted as a No. When the international offer was rejected, we do not know how legislators would have voted. A failure chart may separate these causes but cannot turn them into estimates of preferences that were never elicited. Always

retain the stage-order explanation beside percentages.

The monetary region contains integer allocations satisfying both negotiators' outside payments and the required number of legislators, using actual adjustments and compensation. It includes mandate restrictions when applicable and excludes the continuity award. Its size and endpoints describe opportunities under a monetary comparison with approval at indifference. They are not ballots predicted by the program or a measure of a negotiator's knowledge. With private information, the instructor can reconstruct it after closure from complete records even though the other side did not know those adjustments.

Compare an offer outside a nonempty region, an offer inside that region that fails, and an empty region. The first invites discussion of another allocation; the second requires examining actual decisions without assuming error; the third indicates no allocation meets the stated criterion. Under conditional continuity, a person may prefer a succession award even when their policy payment favours agreement. The region therefore omits some treatment incentives. State that limitation before treating the region as a behavioural opportunity.

6.3 Exports and observation units

The standard oTree download arranges one row per participant and columns by application and round. It preserves a full trajectory but requires identifying the round and role associated with each column. This family's long download uses one row per participant and active round. A sixteen-person, six-round session produces sixteen wide rows or ninety-six long rows. The difference does not indicate missing information; representation changed. Session, participant, group, and round identifiers support record linkage but should not appear in public slides.

The long export preserves effective parameters, language, edition, matching, position, current role, offer, acceptance, ballots, minima, selection, transfers, payments, and completion flags. Group variables repeat across the eight encounter rows. To study agreements, reduce to one observation per session, round, and group; to study ballots, filter eligible legislators; to study payments, retain individuals. Summing a repeated joint payment eight times would overstate the result. A negotiator becoming a legislator remains the same person with a different role, rather than a new observation independent of their history.

Empty fields indicate absent decisions or pending stages depending on the rules. Zero is an effective amount or numerical choice and must not replace an empty cell. Apply completion flags before summarising payments. Pending active rounds remain available for auditing progress with unsettled payments blank. Select downloads for a specific session; do not pool automated demonstrations, browser checks, and real classes into one analysis. Keep an original copy of each download and document filters before transforming files. State whether reported averages describe participants, eligible decisions, or completed encounters.

6.4 Independent reconstruction and consistency

Select a completed encounter and reconstruct the offer as A's allocation and its complement for B. Identify current negotiators because continuity and selection may move them away from A1 and B1. Count actual ballots among the other three positions in each country and apply each country's requirement. Check mandate, acceptance, and both approvals in the correct order. Then reconstruct the policy payment: the outside amount following failure, or base plus allocation with a legislator's adjustment and applicable transfers following implementation. Add the award to its actual recipient and compare with the recorded payment.

A second check uses the sum. In reference with initial positions and agreement, eight bases plus four times the fund plus legislative adjustments gives five hundred and sixty. Failure gives four hundred. Compensation redistributes resources and cancels in the sum. Continuity treatments add forty shared between two recipients, whose identities may change. If a role change alters which adjustment is excluded because its holder negotiates, change the expected sum accordingly. Five hundred and sixty is not a universal constant for election or succession.

Check that a negotiator has no invented legislative ballot. Check that minima and candidates appear only when their stage exists. In a partial session, some encounters may be complete while others remain open; initial group zeros are not realised outcomes. If a discrepancy appears, preserve the original file and locate session, round, group, and rule. Independent reconstruction should use this guide's rules and exported parameters rather than copy the calculated result being checked. Document any exclusion without silently overwriting the observation.

6.5 Class sequence and guided discussion

Allow approximately fifteen minutes for access and instructions, fifteen for comprehension and an initial encounter, twenty for a comparison, and twenty for discussion and exercises. This seventy-minute allocation is provisional and awaits a classroom pilot. Completing repetition or several extensions requires another class or a longer period. An interpretable comparison can use reference and unanimity, or two compensation sessions under unanimity, holding group numbers and information conditions constant. Rematching changes counterparties and should not be presented as the same social condition as fixed groups.

Before decisions, ask one person to explain whose allocation the offer records and another to calculate a payment, without telling them how to vote. After closure, ask which stage ended the encounter, which countries approved, and who received each component. Construct another offer on the board that would change a voter's payment while retaining other rules. Only then introduce two-level bargaining, domestic constraints, or agreement opportunities. Theoretical vocabulary becomes meaningful when attached to choices everyone can reconstruct.

If fairness demands emerge, treat them as arguments expressed in discussion rather than automatically measured variables. The same No can reflect distribution, an award, rule interpretation, or a nonmonetary concern. Compare explanations with observations and identify what information would distinguish them. A group table showing region size, offers, and failure causes supports that conversation; classifying students by psychological traits is not supported by this activity. End discussion with a precise condition under which the proposed conclusion would change.

6.6 Worked exercises and assessment rubric

First exercise: A proposes thirty-five, B accepts, and both countries require unanimity. Without compensation, A2 receives forty-five, below the fifty outside amount; A fails unanimity if people vote on policy payments and approve at indifference. Add five to A2 and five to B2, funded by their negotiators. A1 receives fifty and B1 eighty; all six legislative accounts meet the outside payment. The eight payments are fifty, fifty, fifty-five, sixty-five, eighty, eighty, eighty-five, and ninety-five. Their sum remains five hundred and sixty. This establishes a feasible package rather than guaranteeing actual ballots. Require students to identify both the transfer recipient and the person paying it.

Second exercise: A's minima are twenty, sixty, and eighty; B's are thirty, sixty, and ninety. Both medians are sixty. A fund of one hundred cannot satisfy both mandates, regardless of willingness to accept. An offer of fifty closes through the mandate rule without acceptance or ballots. Everyone

receives fifty when there is no award. The answer must preserve missing decisions as missing; inventing six negative ballots changes the diagnosis.

Third exercise: current negotiator B1 faces failed domestic ratification after acceptance under conditional continuity. B2 becomes the next negotiator and receives twenty at current settlement, including the final round. Their outside payment plus award is seventy; B1 receives fifty. A retains its negotiator if its assembly passed, despite joint failure. A ten-point rubric allocates three points to accounts, three to sequence and roles, two to institutional comparison, and two to inference limits. Assess explanation and evidence rather than treating approval or rejection as a morally correct answer.

6.7 Interruptions, pilot, and experimental evidence

After an individual interruption, recover that person's private link and confirm their current screen. Reloading should neither duplicate closed decisions nor assign a new role. The final page remains available for reviewing their total. If someone is absent during a simultaneous stage, the group waits; do not silently substitute an instructor's ballot, minimum, or selection. If they permanently leave, record the encounter as incomplete and explain exclusion. Changing group size midway would alter the design rather than simply repair access.

Before class, test devices, browsers, screenshot readability, and server availability with the chosen configuration. A human pilot should assess actual timing, confusion between the allocation to A and the proposing role, understanding of both voting requirements, and continuity-payment interpretation. Automated tests cover accounts and branches but do not estimate fatigue or student comprehension. The public domain, catalog connection, and any conversion of ECU into money require their own operational review; a local demonstration does not verify those steps.

Repeated encounters within a group share people and history. Ten rounds are not ten independent groups. Under rematching, the same people appear across encounters and may meet again; independence does not arise merely by labelling them new groups. Descriptive discussion can use rates and distributions with explicit denominators. Studying causal effects requires specifying treatment assignment, randomisation units, and comparisons before observing outcomes. Distinguish this original teaching design from the cited investigations: their findings motivate questions rather than promise replication in this class. A well-reasoned observation can remain informative without being a causal estimate.

Feedback script

Reconstruct offer, acceptance, ballots, and payments. Then change one rule and explain whose opportunity or incentive changes. Distinguish the monetary prediction from observed choice.

Instructor report: two-level diplomacy

There is one encounter with this group.
During choices, project progress only. Reveal results after the relevant stages close.

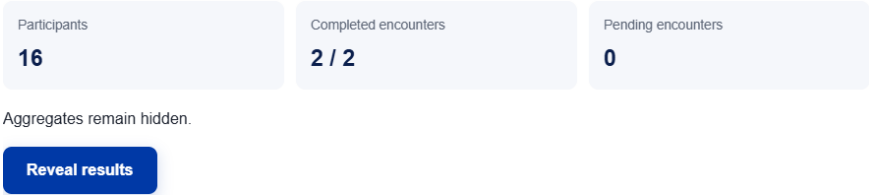


Figure 6.1: Progress and initially hidden aggregates.

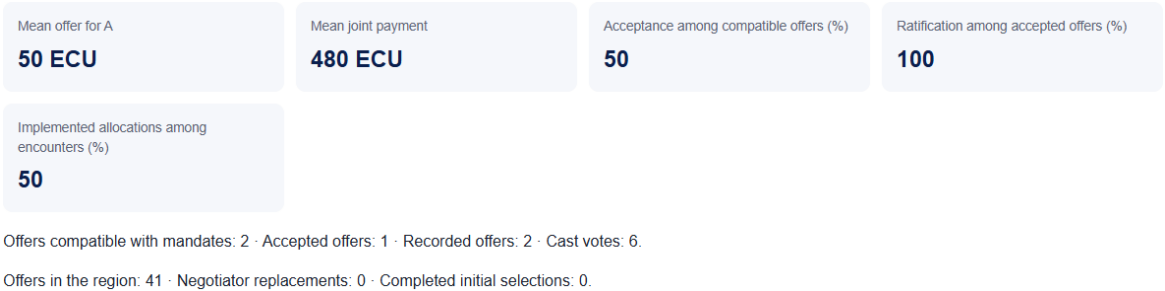


Figure 6.2: Aggregates revealed after closure.



Figure 6.3: Offer distribution and counts.

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