



Instructor's Guide to Clientelism, Brokers, and Ballot Secrecy

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 supports preparation, implementation, and discussion of **Clientelism, Brokers, and Ballot Secrecy** at the Behavioral and Experimental Economics Research Lab (BEER Lab), Department of Economics, Tecnológico de Monterrey. It is intended for instructors in political science, political economy, behavioral economics, and institutions, including those new to classroom experiments.

The quick guide supports session preparation. Operational chapters explain access, roles, screens, and results.

Conceptual chapters develop material incentives, pivotal voting, reciprocity, and information. Common rules appear once; extended variants explain only what changes, the relevant comparison, and the limits of interpretation.

Author

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For the instructor

The protocol is an original teaching adaptation motivated by the literature on reciprocity, political monitoring, brokerage, and distributive politics. It is not a literal replication. Alternatives are abstract, ballots private according to the treatment, and monetary values assigned rather than personal political opinions.

Contents

How to use this guide	i
1 Quick implementation guide	1
1.1 Access through the updated laboratory website	1
1.2 Family summary	5
1.3 Minimum sequence	6
2 Access and session preparation	7
2.1 Learning objectives	7
2.2 From the laboratory website to the activity	7
2.3 Choosing a configuration	7
2.4 Room, Monitor, Report, and data	8
3 Rules and the participant journey	9
3.1 Roles, resources, and sequence	9
3.2 Comprehension and round preparation	9
3.3 Allocation and ballot	14
3.4 Results and completion	14
4 Theory and worked calculations	19
4.1 What the activity represents	19
4.2 Payoffs and a closed budget	19
4.3 Pivotal voting and weak dominance	20
4.4 Reciprocity and beliefs	20
4.5 Why contingent payment changes strategy	21
5 Instructor report and interpretation	22
5.1 Controlled reveal and incomplete states	22
5.2 Amount histogram and conditional support	23
5.3 Means, winners, and role comparisons	25
5.4 Evolution and dependent observations	25
5.5 Worked example of denominators	26
6 Extended variants: mechanisms and teaching use	27
6.1 Reference and full-observation duration	27
6.2 Partial observation with known probability	27
6.3 Contingent payment and verification	29
6.4 Broker with private distribution	29
6.5 Distribution transparency and recovery review	30
6.6 Individual amounts versus universal distribution	32
6.7 Universal program with added productivity	32
6.8 Public and private heterogeneous values	32

7	Literature and the interpretation of evidence	37
7.1	Reciprocity, observation, and political control	37
7.2	Brokerage and programmatic distribution	37
7.3	Using readings with nonspecialists	38
8	Class plans, exercises, and suggested answers	39
8.1	A sixty-minute introductory session	39
8.2	A ninety-minute institutional comparison	39
8.3	Exercise: reconstructing accounts	40
8.4	Exercise: announcements and contingent transfers	40
8.5	Exercise: delegated budgets	40
8.6	Exercise: separating mode from technology	41
8.7	Conceptual conclusion and assessment	41
9	Data, good practice, and troubleshooting	42
9.1	Export and responsible analysis	42
9.2	Frequent operational problems	42
9.3	A simple analysis worksheet	43

List of Figures

1.1	Current institutional website. Select CLASSROOM in the top navigation menu to open the teaching experiments. Captured on October 7, 2026.	1
1.2	Current catalog: search by title, topic, or JEL code. Then locate this family's card and select language and edition. Captured on October 7, 2026.	2
1.3	Demo contains only the configurations of this game family, in both languages and editions. Continuation 1/2.	3
1.5	Rooms contains the four rooms for this family: basic and extended editions in Spanish and English.	4
1.6	Session-creation form for the basic English room. Check the selected configuration and participant requirement before creating the session.	5
3.1	Institutional welcome and laboratory rules.	10
3.2	Current instructions for the basic edition: initial resources, decision rules, and experimental units. Continuation 1/2.	11
3.4	Current comprehension check with an incorrect answer, its specific explanation, and retained responses.	13
3.5	Round preparation identifies the role and current rule.	14
3.6	C allocates individual amounts and checks the budget.	15
3.7	The voter observes their own amount and the alternatives' values.	15
3.8	A wait screen appears while other roles complete necessary decisions.	16
3.9	C's result shows costs and announced allocations, while individual reference ballots remain secret.	17
3.10	Private voter result with payoff and effective distribution.	17
3.11	Explicit completion screen with accumulated earnings.	18
5.1	Aggregate results remain hidden until the instructor reveals them.	22
5.2	A partial report identifies completed and pending group-rounds.	23
5.3	Final status and principal aggregates for the completed session.	24
5.4	Complete announced-amount histogram with category counts.	24
5.5	C support by amount: each bar is accompanied by its numerator and denominator.	24
5.6	Separate earnings by role and their sample sizes.	25
6.1	Under full observation C learns numbered ballots afterward; advance transfers remain nonrecoverable.	28
6.2	The contingent ballot labels the amount as payable only after choosing C.	29
6.3	C funds the budget administered by the broker.	30
6.4	The broker allocates within the funded budget and observes the undistributed balance.	31
6.5	Broker result with retention, recovery, and own earnings.	31
6.6	C selects distribution mode with comparable budget and productivity.	33
6.7	The productive universal benefit is distinguished from the funded cost.	34
6.8	Only with public values does C see each position's monetary value.	35
6.9	Voters know their own values even when C does not know their assignment.	36

Quick implementation guide

1.1 Access through the updated laboratory website

Start at <https://beer-lab.org/en/>. Select **CLASSROOM** in the top navigation menu; it opens <https://teaching.beer-lab.org/en/>. In the **Classroom experiments** catalog, use the search box to locate the activity by name. You can also filter by **Topic** or **JEL code**. Clear any filters left from an earlier search before looking for another game.

Each family's card distinguishes **Español** and **English** access links. The **Show extended version** checkbox selects that edition before following a link. Catalog language and session language are separate choices: verify both. Students use the room specified by the instructor; the instructor prepares and monitors the session through this family's own administrative pages.



Figure 1.1: Current institutional website. Select CLASSROOM in the top navigation menu to open the teaching experiments. Captured on October 7, 2026.

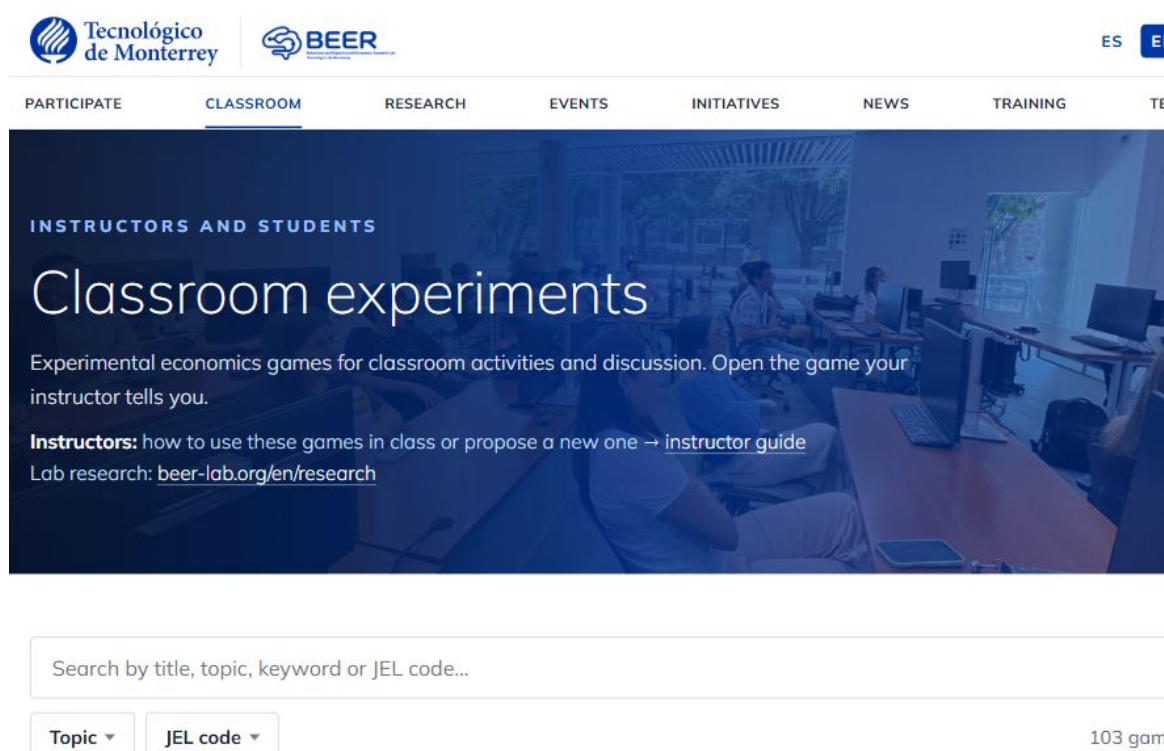


Figure 1.2: Current catalog: search by title, topic, or JEL code. Then locate this family's card and select language and edition. Captured on October 7, 2026.

Checking resources, comprehension, and participant requirements

Before opening the room, check the selected configuration and the number of students present. The session-creation form states the group size and minimum required by that configuration. An individual activity accepts any positive participant count; an interactive activity must satisfy its stated requirement: complete groups when size is fixed, or a minimum participant count when size is flexible. Requirements may change across treatments, for example when adding a third party or changing an institution's size. If you edit a grouping parameter, check the requirement for the edited configuration, rather than relying only on the demo's suggested count.

In the instructions, ensure that students can identify what each role receives, what they can decide, and how the outcome is calculated. An initial account, a distributable budget, and final earnings need not be the same amount. Refer to the resources panel and the example for the selected treatment. Do not carry the basic edition's endowment into a treatment that changes accounts or introduces additional positions.

ECU stands for *Experimental Currency Units*: the activity's unit of account. An outcome of 100 ECU does not automatically equal 100 pesos or 100 dollars. Conversion depends on the session configuration. Before announcing a payment, confirm with the laboratory whether money is paid, the conversion rate, and which decisions count for payment. In hypothetical modules, describe amounts as outcomes in the stated situation.

When a comprehension check is included, an incorrect response receives an explanation beside that question, identifying the submitted answer and the correct answer. Other answers remain in the form. Ask the student to return to the example, locate the relevant rule, and redo the calculation before correcting the response. Avoid revealing answers to the entire class for an individual error, and do not interpret a comprehension mistake as an economic choice in the game.

— una interacción

— 10 rondas, grupo fijo

— 10 interacciones con reasignación

extendido — Transferencia previa y voto secreto (6)

extendido — Transferencia previa y voto observable (1)

extendido — Transferencia previa y voto observable (6)

extendido — Transferencia previa y voto observable (10)

extendido — Observación de 25% de los votos (6)

extendido — Observación de 75% de los votos (6)

extendido — Pago condicionado al voto por C (6)

extendido — Intermediario con distribución privada (6)

extendido — Intermediario con distribución transparente (6)

extendido — Intermediario con auditoría de 80% (6)

extendido — Elección entre transferencias y programa universal (6)

extendido — Asignación universal con productividad igual (6)

extendido — Programa universal con productividad doble (6)

extendido — Valores del resultado diferentes y públicos (6)

extendido — Valores del resultado diferentes y privados (6)

Figure 1.3: Demo contains only the configurations of this game family, in both languages and editions. Continuation 1/2.

— one interaction

— 10 rounds, fixed group

— 10 interactions with rematching

ientelism — Advance transfer and secret ballot (6)

ientelism — Advance transfer and observable ballot (1)

ientelism — Advance transfer and observable ballot (6)

ientelism — Advance transfer and observable ballot (10)

ientelism — 25% vote observation (6)

ientelism — 75% vote observation (6)

ientelism — Payment conditional on a vote for C (6)

ientelism — Broker with private distribution (6)

Clientelismo, intermediarios y secreto del voto / Clientelism, Brokers, and Ballot Secrecy — BEER Lab

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

	extendido — Elección entre transferencias y programa universal (6)
BE	extendido — Asignación universal con productividad igual (6)
	extendido — Programa universal con productividad doble (6)
	extendido — Valores del resultado diferentes y públicos (6)
	extendido — Valores del resultado diferentes y privados (6)
	— one interaction
	— 10 rounds, fixed group
	— 10 interactions with rematching
	ientelism — Advance transfer and secret ballot (6)
	ientelism — Advance transfer and observable ballot (1)
	ientelism — Advance transfer and observable ballot (6)
	ientelism — Advance transfer and observable ballot (10)
	ientelism — 25% vote observation (6)
	ientelism — 75% vote observation (6)
	ientelism — Payment conditional on a vote for C (6)
	ientelism — Broker with private distribution (6)
	ientelism — Broker with transparent distribution (6)
	ientelism — Broker with an 80% audit (6)
	ientelism — Choice between transfers and a universal program (6)
	ientelism — Universal allocation with equal productivity (6)
	ientelism — Universal program with double productivity (6)
	ientelism — Different and public outcome values (6)
	ientelism — Different and private outcome values (6)

Figure 1.4: Demo contains only the configurations of this game family, in both languages and editions. Continuation 2/2.

Rooms

Current rooms:

[ES] Clientelismo, intermediarios y secreto del voto
[EN] Clientelism, Brokers, and Ballot Secrecy
[ES] Clientelismo, intermediarios y secreto del voto — Extendido
[EN] Clientelism, Brokers, and Ballot Secrecy — Extended

Figure 1.5: Rooms contains the four rooms for this family: basic and extended editions in Spanish and English.

Room: [EN] Clientelism, Brokers, and Ballot Secrecy

Create a new session

Session Config

[EN] Clientelism — one interaction

Number of participants

Complete groups of 6 participants. Use a multiple of 6; minimum 6.

Create

Configure session

App sequence

clientelism_game (10 rounds)

Transfers before a ballot, vote observability, conditional payment, brokers, and universal allocation.

Figure 1.6: Session-creation form for the basic English room. Check the selected configuration and participant requirement before creating the session.

Downloading a session with several rounds

For the instructor

Open **Data** within the relevant session and use that session’s CSV or CSV-for-Excel download link. The general export has one row per participant and columns for the different rounds. Ten rounds do not necessarily mean ten rows per person. When the family provides its own long-format export, observations may instead be organized by participant and round or another unit defined by the design.

Save the original file together with the configuration name, session code, and active-round count. Check that columns for the last active round are present and that the data belong to the selected session. Empty cells can represent inactive rounds, a pending decision, or a field that does not apply to a role; do not automatically recode them as zeros. To compare learning, preserve round and group identifiers alongside participant identifiers. Share only anonymous aggregates in class, and record session incidents before constructing derived tables.

1.2 Family summary

Purpose	A candidate distributes resources to five voters choosing C or R. Compare advance and contingent transfers, ballot secrecy, brokers, and universal benefits. Discuss majority outcomes, material incentives, reciprocity, and the information available to each role.
Experimental unit	One candidate and five voters; broker variants add a seventh participant. R is system-controlled.

Basic edition	One interaction, ten fixed-group rounds, or ten rounds with voter reassignment.
Extended edition	Full and partial observation; conditional payment; private, transparent, or reviewed brokerage; universal mode and productivity; public or private heterogeneous values.
Decision	C allocates 0–5 ECU per voter within 25 ECU or funds a broker. Voters choose C or R; C needs three ballots.
Payoff	Reference: C earns $100 - S + 60\mathbf{1}\{W = C\}$; voter i earns $10 + b_i + u_i(W)$, with $u_i(C) = 10$ and $u_i(R) = 20$.
Topics	electoral clientelism; ballot secrecy; reciprocity; political brokerage; monitoring; distributive politics.
JEL	A22; C73; C92; D72; D73.
Participants	Multiples of six, or seven with brokers. Demo uses twelve or fourteen.
Suggested duration	45–60 minutes for an introductory session; 70–90 minutes for repeated or comparative sessions.
Basic room	https://clientelism.beer-lab.org/room/clientelism_en .

1.3 Minimum sequence

Confirm group size, choose language and treatment, create a session, associate the room, share only participant access, check comprehension, let all roles finish, reveal aggregates, discuss calculations and mechanisms, and export data. Check the four rooms and the 36 configurations before admitting participants.

Access and session preparation

2.1 Learning objectives

Students should distinguish a received benefit from an enforceable obligation, identify when a ballot changes the winner, reconstruct role accounts, separate observation from enforcement, and recognize why selected transfers do not identify a causal effect. They should also distinguish equal distribution from productive technology and describe the information available to each role.

2.2 From the laboratory website to the activity

Begin at <https://beer-lab.org/> and open the teaching directory, <https://teaching.beer-lab.org/en/>. Select the card for Clientelism, Brokers, and Ballot Secrecy. The card identifies a family of activities rather than a single session configuration. Within that family, choose language, edition, and treatment. The proposed institutional hostname is <https://clientelism.beer-lab.org/>. These are the routes the laboratory should use when deploying the activity; their inclusion in this guide does not mean that the hostname has already been published.

Instructors enter through <https://clientelism.beer-lab.org/demo>. Students enter through a room, such as https://clientelism.beer-lab.org/room/clientelism_en. These links perform different tasks. Demo presents configurations and opens demonstration sessions; a room directs a participant to the session assigned to it by the instructor. Sharing Demo with students makes session control difficult because each person might open a different demonstration. Display only the participant room or its QR code after checking that the intended configuration is assigned and ready.

Before institutional deployment, the local instance is available at <http://localhost:8096/demo>. This address works on the computer running the server. On another computer, localhost refers to that other computer, not the instructor's device. Network access requires an address and configuration approved by the laboratory. For a real class, use the institutional link confirmed by the technical administrator. A page loading successfully on your own computer does not establish that participants can reach the same session from laboratory workstations.

2.3 Choosing a configuration

The basic edition includes one interaction, ten rounds with a fixed group, and ten rounds with reassigned voters. The extended edition contains fifteen configurations per language: a six-round reference, three durations of full observation, and comparisons involving partial observation, contingent payments, brokerage, universal distribution, and heterogeneous outcome values. Demo

should therefore contain 36 configurations and Rooms should contain four rooms. Each basic room has three choices, while each extended room has fifteen. These counts provide an operational check; participants do not need to memorize them.

Reference groups contain six people: candidate C and five voters. Broker variants contain seven. Alternative R is controlled by the system and requires no additional person. Use multiples of six or seven, depending on the configuration. With twenty-five students in a six-person activity, you can form four groups and assign the remaining student an external observation exercise. Do not place an extra voter into a complete group or invent a participant role for R. Either change would alter the decision rule and the theoretical calculations supporting this guide.

Demonstrations use two groups so that instructors can inspect aggregate results and pending group-rounds. A reference demonstration opens twelve participant links; a broker demonstration opens fourteen. These links belong to one session rather than twelve independent sessions. Before class, complete at least one demonstration in every language you intend to use. During the test, keep a tab open for each role and check that wait pages advance when everyone has submitted the relevant decision. Do not judge the workflow from the candidate's screen alone.

Checkpoint

Check family, language, edition, treatment, round count, and group size. The instructor link should show only this family. Basic rooms should exclude extended treatments and activities such as trust, public goods, or other games.

2.4 Room, Monitor, Report, and data

Create the session through the administrative interface provided by the laboratory and associate it with the chosen room. Check the room in a test window before admitting students. A wait message appearing before the welcome screen may mean that no active session has been assigned to the room. It does not establish that the participant has already entered the activity. The administrator should inspect the room-session association before asking students to reconnect. An old participant-specific page is also different from the stable room link.

Keep Monitor and Report in separate tabs. Monitor helps locate the page on which each participant is waiting. Report supports discussion of aggregate outcomes and includes explicit controls to show or hide results. Avoid projecting the Monitor with participant codes or an unprepared data export. The report displays no identities or individual ballots, even when a treatment allows C to observe ballots within their own group. Administrative records retain more detail so that authorized instructors can check the activity and prepare subsequent analysis without exposing private decisions during class.

Name sessions by date, course, and treatment without inserting student names. Export data after class and retain the configuration name with the file. For treatment comparisons, record their order and whether the same people played both. This information is necessary to distinguish institutional differences, learning, and group composition. The activity does not require demographic questions, actual party preferences, political affiliation, or students' personal voting histories. Assigned values and abstract alternatives provide the experimental variation; personal political disclosures would introduce an unnecessary and different task.

Rules and the participant journey

3.1 Roles, resources, and sequence

Candidate C receives 100 ECU per round and may commit up to 25 ECU to distributions. Each of the five individual amounts must be an integer from 0 to 5 ECU. C receives a 60 ECU office bonus when obtaining at least three of the five ballots. R wins when C receives zero, one, or two. Each voter receives a 10 ECU base, the applicable distribution benefit, and the monetary value of the winning alternative. In the reference, that value is 10 ECU when C wins and 20 ECU when R wins.

The sequence separates decisions that might otherwise be confused. First C chooses amounts or funds a broker's budget. When a broker is present, that participant chooses the distribution. Each voter then observes their own amount and simultaneously chooses C or R. The system counts five ballots, calculates payoffs, and reveals only the permitted information. There is no abstention, written negotiation, or messaging among participants. Labels C and R represent abstract alternatives rather than actual parties. Assigned monetary values likewise do not represent students' political opinions.

In the reference, transfers are committed before the ballot and cannot be recovered. A voter receiving 4 ECU keeps those four if choosing R or if C loses. Receipt does not create an enforceable electoral contract. The exercise lets students distinguish obligations imposed by the software from obligations they might feel for personal reasons. This distinction must be clear before play, but the instructor should not announce a reciprocity hypothesis or suggest which decision is expected. Neutral instructions establish rules without teaching the predicted result in advance.

What participants will see

Participants first see the laboratory logo and general rules, followed by their session's instructions. The ballot screen shows their distribution, the values of C and R, and the information C will receive. The only voting decision is a choice between those alternatives.

3.2 Comprehension and round preparation

The comprehension check asks how many ballots C needs, the maximum individual amount, and which individual ballots C will learn afterward. Reference answers are three, five, and no individual ballots. Under full observation, the third answer changes to all five ballots. Under partial observation, it changes to the ballots selected by a draw. Do not supply a single information answer across all treatments. That rule is precisely one of the features the exercise makes available for institutional comparisons.



Welcome to the BEER Lab

The Behavioral and Experimental Economics Research Lab, Department of Economics, Tecnológico de Monterrey, is a space for learning about decision making through controlled activities.

Your decisions and aggregate results will be discussed in class after the activity. Follow the on-screen instructions and work individually.

Laboratory rules

- Remain quiet and do not talk with other participants.
- Do not use your phone or open other pages during the activity.
- Do not share decisions or try to identify other participants.
- If you have a question, raise your hand and wait for the instructor.

☐ I have read the general instructions and agree to follow them.

Start

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Figure 3.1: Institutional welcome and laboratory rules.



BEER LAB · ROUND 1 OF 1

Transfers and a Ballot: Instructions

Resources and unit of account

Allocator C's endowment per round: 100 ECU.

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

This session does not convert ECU into real money.

Each group has candidate C and five voters. Candidate R is a system-controlled alternative, not another participant. Each voter chooses C or R. C wins with at least three votes; otherwise R wins. Abstention is not available. Payoffs are expressed in ECU (experimental currency units).

Candidate account

C receives 100 ECU per round and may allocate up to 25 ECU. Each individual amount must be an integer from 0 to 5 ECU. If C wins, C receives an office bonus of 60 ECU; if C loses, this bonus is zero.

Voter account

Each voter receives a 10 ECU base, the applicable distribution benefit, and the value of the winning alternative. In the reference version, this value is 10 ECU if C wins and 20 ECU if R wins. It depends on the group winner, not the individual ballot. In variants with different values, your ballot screen states your assigned values.

This session's rule

Nonrecoverable advance transfers and secret ballots.

Figure 3.2: Current instructions for the basic edition: initial resources, decision rules, and experimental units. Continuation 1/2.

When the distribution is paid

The distribution is a transfer received before voting. It is not returned if you vote R or if C loses. Receiving it does not impose an obligation to vote for the sender.

Ballot information

C learns only the total number of C ballots, not who cast them.

Round sequence

1. C chooses a distribution or provides a budget to the broker.
2. When a broker is present, the broker chooses individual amounts.
3. The five voters observe their own amounts and vote simultaneously.
4. The system determines the winner, calculates payoffs, and displays permitted information.

Reference example: advance transfers

If C distributes 5 ECU to each voter, C spends 25 ECU. If C wins, C earns 135 ECU and each voter earns 25 ECU. If R wins, C earns 75 ECU and each voter earns 35 ECU. This example concerns the reference version without a broker, conditional payments, or a benefit multiplier.

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Allocator C's endowment per round: 100 ECU.

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Each voter receives a 10 ECU base, the applicable distribution benefit, and the value of the winning alternative. In the reference version, this value is 10 ECU if C wins and 20 ECU if R wins. It depends on the group winner, not the individual ballot. In variants with different values, your ballot screen states your assigned values.

This session's rule

Nonrecoverable advance transfers and secret ballots.

One interaction · 1 rounds

When the distribution is paid

The distribution is a transfer received before voting. It is not returned if you vote R or if C loses. Receiving it does not impose an obligation to vote for the sender.

Ballot information

C learns only the total number of C ballots, not who cast them.

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1. C chooses a distribution or provides a budget to the broker.
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Continue

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Figure 3.3: Current instructions for the basic edition: initial resources, decision rules, and experimental units. Continuation 2/2.

If a student answers incorrectly, allow them to reread the instructions. Explain the difference between a count and a percentage: three of five is a 60% majority, but the requested answer is the number three. Also distinguish the maximum total budget of 25 ECU from the maximum individual amount of 5 ECU. Confusing these limits can produce an impossible allocation. The screen retains the student at the check until the responses are correct. Clarification should explain the relevant rule rather than recommend a candidate or a transfer strategy.

Round preparation identifies the participant's role and grouping procedure. Roles remain constant: a candidate does not become a voter in a later round. In fixed groups, numbered voter positions also remain constant. Under reassignment, voters are mixed across candidates and previous counterparts may meet again. Do not describe this procedure as guaranteeing a different counterpart in every round. Accounts renew each round; earlier earnings accumulate as an outcome but cannot finance subsequent decisions. A loss therefore does not remove the next round's candidate endowment or reduce the voter's base.



Review the marked questions. Each shows your answer and an explanation; your other answers are retained.

BEER LAB · ROUND 1 OF 1

Check the rules

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.

How many votes does C need to win?

4

Your answer: 4. The correct answer is 3. Review the instructions: C needs three votes, the individual limit is as stated, and information depends on this session's rule.

What is the maximum individual amount, in ECU?

5

What individual ballot information does C receive at the end?

☒ No individual ballots

☐ Only ballots selected by a draw

☐ All five individual ballots

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Figure 3.4: Current comprehension check with an incorrect answer, its specific explanation, and retained responses.

BEER LAB · ROUND 1 OF 1

Round preparation

Your role
Voter

Scheduled rounds
1

This session's rule
One interaction

Accounts renew each round. Previous earnings add to your total but do not finance current decisions. Roles stay the same. Random reassignment may bring participants together again.

Nonrecoverable advance transfers and secret ballots.

C learns only the total number of C ballots, not who cast them.

Continue

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Figure 3.5: Round preparation identifies the role and current rule.

3.3 Allocation and ballot

The candidate completes five amount fields. Voter numbers identify anonymous positions within a group, not workstations or people named on a roster. The interface calculates total cost and the available balance to reduce arithmetic mistakes. The system checks amounts and budget when the decision is confirmed. A negative amount or an amount outside the permitted range cannot generate a valid allocation. Do not interpret a corrected typing error as a revealed preference. The relevant observation is the final accepted choice rather than a draft value entered into a field.

Each voter sees only their own distribution. The interface distinguishes a transfer already received, an announced transfer contingent on choosing C, and a universal benefit. The winning alternative's value is shown separately from the base and distribution. For example, a student receiving 3 ECU obtains 10 plus 3 plus 20, or 33 ECU, if R wins in the reference. If that student voted C but R won, the value of R still applies because this component depends on the collective outcome rather than personal support.

Wait pages synchronize decisions. They should not be bypassed by repeatedly pressing buttons or opening additional demonstrations. C waits while the five voters choose. Voters wait for distribution decisions and the completed ballot. If progress stops, inspect Monitor, explain the pending task, and retain the session. Resetting the database during class removes links and records; it is not an appropriate response to a decision that has not yet been submitted. The instructor's task is to distinguish a genuine technical problem from the normal dependency between roles.

3.4 Results and completion

At the end of the round, everyone learns the winner and the total number of C ballots. Each person sees their own payoff; a voter also sees their ballot and effective distribution. In the reference, C receives no list identifying individual choices. Under full observation, C sees five numbered ballots. Under partial observation, selected ballots appear while others are marked unobserved. Secret information is excluded from the participant screen's context rather than merely hidden by a color or collapsed panel. The information boundary therefore concerns what is transmitted to the role.

BEER LAB · ROUND 1 OF 1

Allocate the budget

Enter the amount for each voter. Numbers identify positions within the group, not people or computers. Confirm after checking the total.

Nonrecoverable advance transfers and secret ballots.

1	2	3	4	5
Voter 1	Voter 2	Voter 3	Voter 4	Voter 5

Total cost (ECU)	Undistributed balance (ECU)
0	25

Confirm decision

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Figure 3.6: C allocates individual amounts and checks the budget.

BEER LAB · ROUND 1 OF 1

Choose C or R

Transfer already received (ECU) **5 ECU**

Your ballot joins the other four ballots. The alternative's value depends on the winner. Check your values and the payment rule before confirming.

If C wins	If R wins
10 ECU	20 ECU
Value of the alternative · Base: 10 ECU	Value of the alternative · Base: 10 ECU

The distribution is a transfer received before voting. It is not returned if you vote R or if C loses. Receiving it does not impose an obligation to vote for the sender.
C learns only the total number of C ballots, not who cast them.

Choose C or R

☐ Vote C
☐ Vote R

Confirm decision

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Figure 3.7: The voter observes their own amount and the alternatives' values.

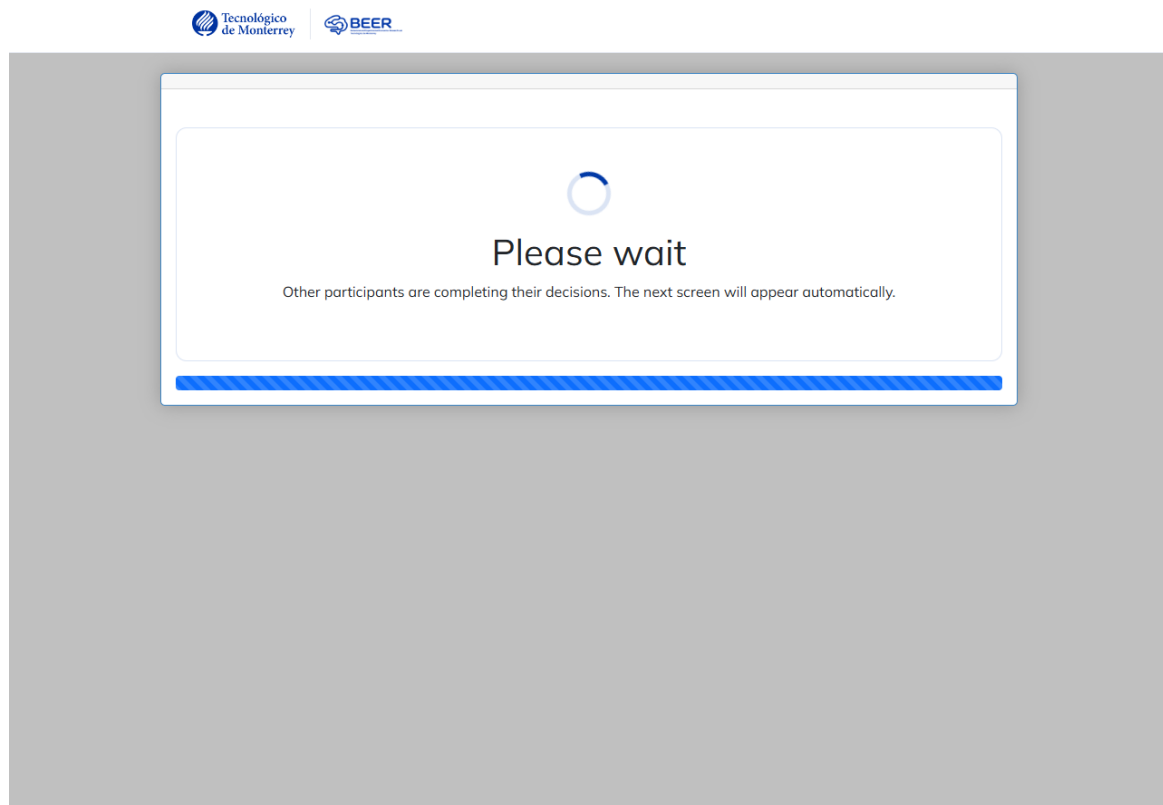


Figure 3.8: A wait screen appears while other roles complete necessary decisions.

In fixed groups, C has an aggregate history of votes, cost, and payoff by round. Participants can compare their choices and outcomes without learning personal identities. After the last active round, an explicit completion screen shows accumulated earnings. There is no continuation button leading to an empty terminal page. Ask students to remain there until the feedback begins. Technical rounds supporting alternative durations are not additional decisions and do not contribute to instructor indicators. One-shot totals cover one round; repeated totals naturally cover more rounds and should not be compared without normalization.

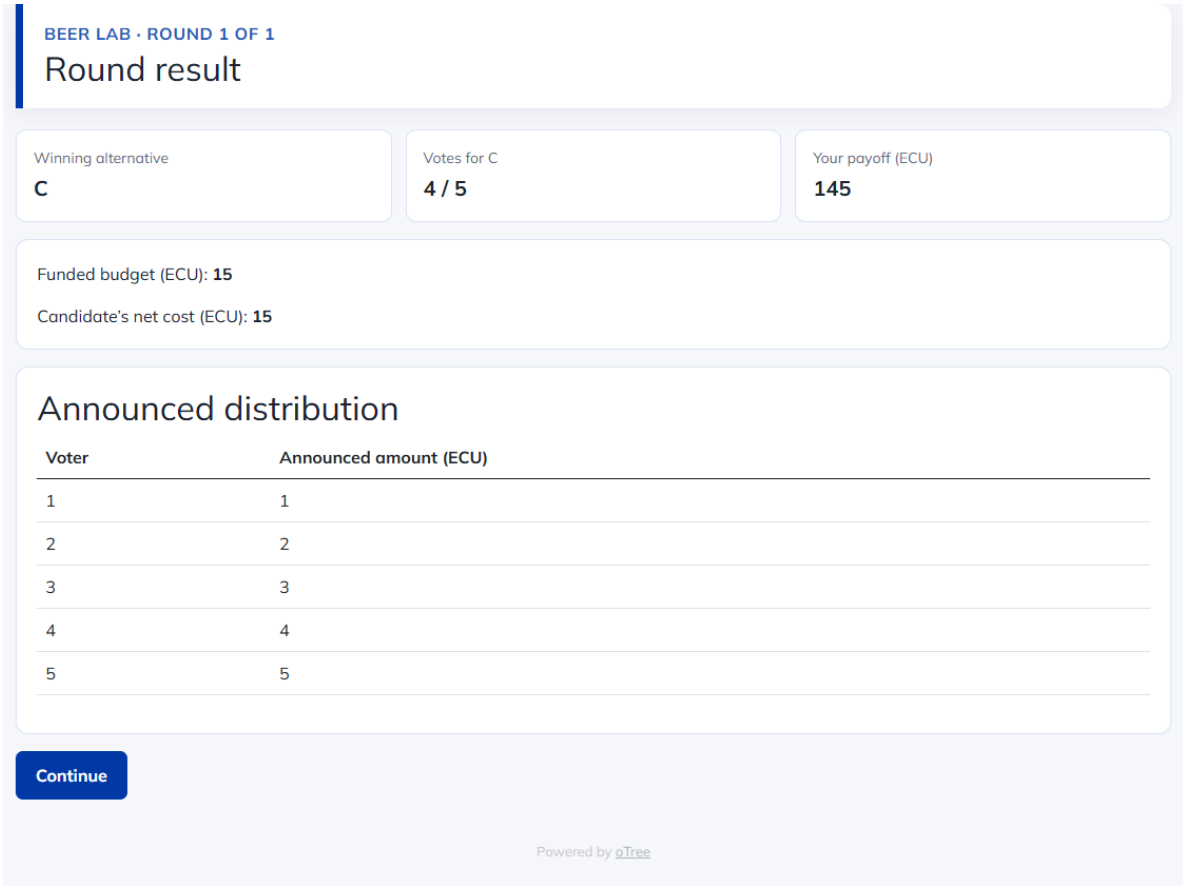


Figure 3.9: C’s result shows costs and announced allocations, while individual reference ballots remain secret.

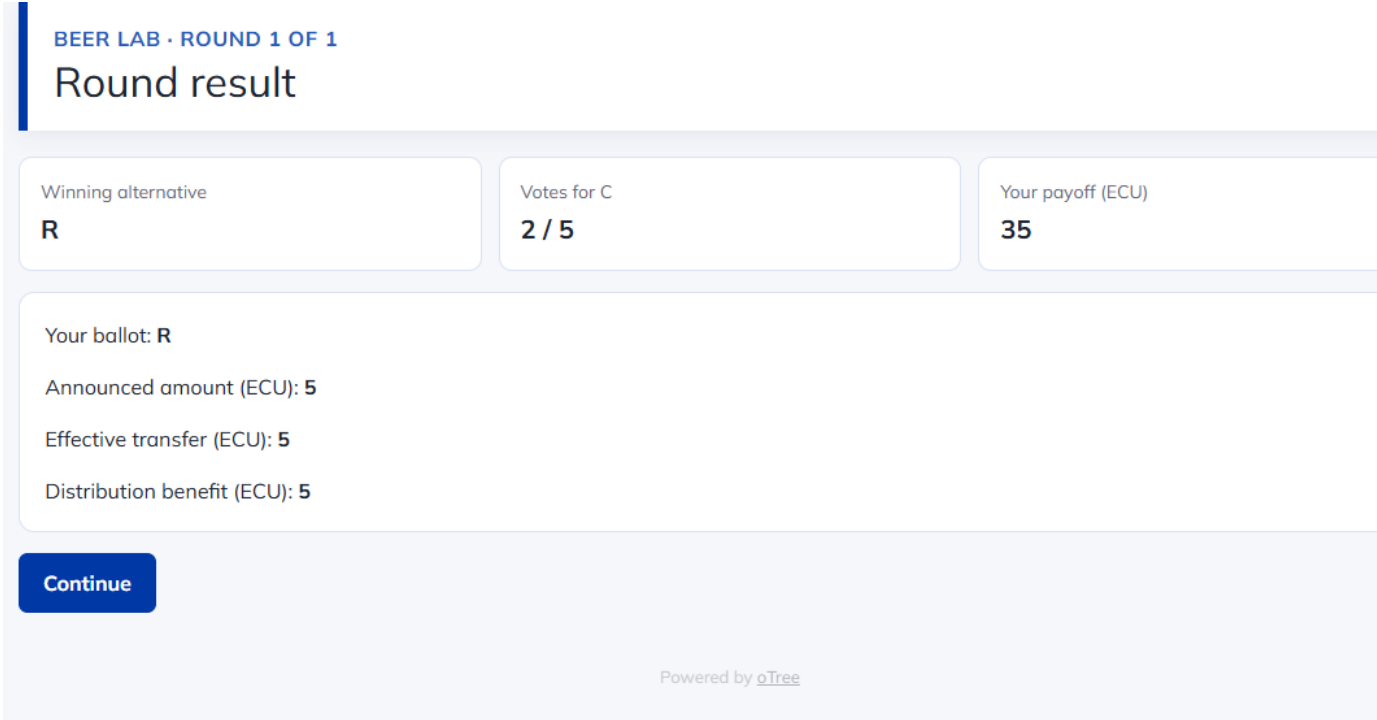


Figure 3.10: Private voter result with payoff and effective distribution.

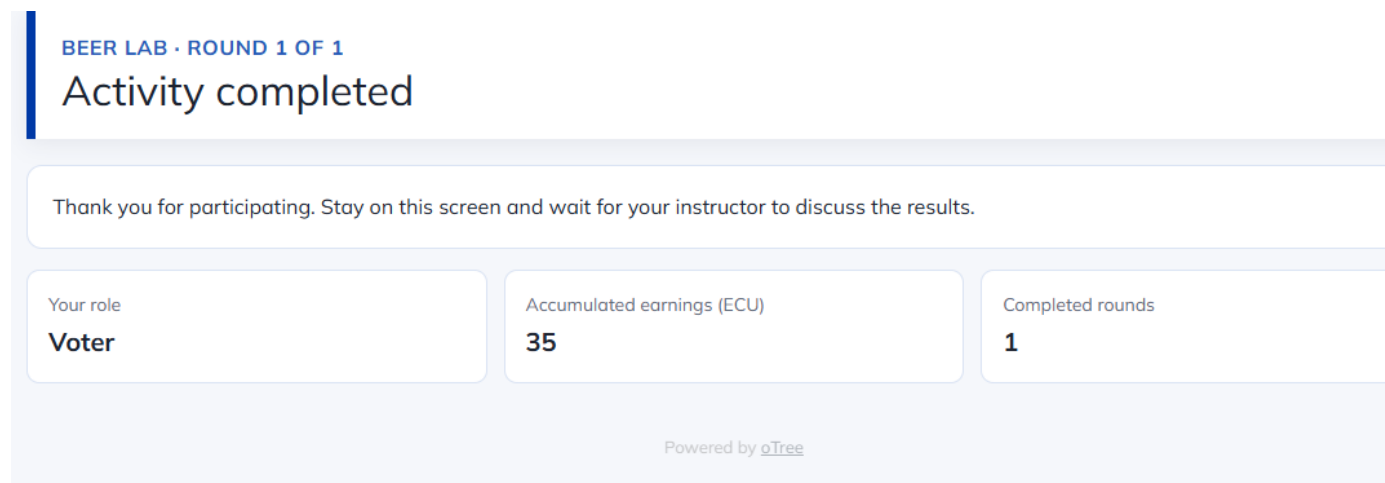


Figure 3.11: Explicit completion screen with accumulated earnings.

Theory and worked calculations

4.1 What the activity represents

Electoral clientelism is commonly discussed in relation to targeted benefits and expectations of political support. Delivering a benefit, observing conduct, and enforcing a payment condition are nevertheless different mechanisms. The reference studies an advance transfer without an enforceable obligation. Extensions separately modify information, the ability to condition payment on a ballot, delegation of distribution, and universal rather than individual delivery. This is an original classroom protocol motivated by academic literature, not a literal replication of a published experiment. The distinction matters when comparing classroom outcomes with evidence from actual elections.

Simplification provides pedagogical advantages. Students know the monetary difference between alternatives and can reconstruct the consequence of a ballot. Instructors can determine whether an explanation concerns material income, beliefs, reciprocity, monitoring, or broker incentives. The same simplification excludes real coercion, complete social networks, competition between two human campaigns, electoral participation, and multidimensional public policies. Do not use the results to diagnose an individual's civic behavior or a society's democratic quality. The exercise is designed to make mechanisms inspectable, not to classify students according to political character.

4.2 Payoffs and a closed budget

Let b_i denote the transfer to voter i , $S = \sum_{i=1}^5 b_i$ the expenditure, x_i the voter's ballot, and W the winner. In the reference, $0 \leq b_i \leq 5$ and $S \leq 25$. Candidate C receives $100 - S + 60$ if C wins and $100 - S$ if R wins. Each voter receives $10 + b_i + u_i(W)$, with $u_i(C) = 10$ and $u_i(R) = 20$. C's victory indicator is one when at least three ballots choose C and zero otherwise. These formulas specify outcome values separately from transfers.

Consider the allocation (1, 2, 3, 4, 5), totaling 15 ECU. If C wins, the candidate receives 145 ECU and voters receive 21, 22, 23, 24, and 25. The group total is 260. If R wins, C receives 85 and voters receive 31, 32, 33, 34, and 35; the group total is 250. The difference between group totals comes from C's 60 ECU office bonus versus the 50 additional ECU that an R victory provides to five voters. It does not come from money being created through a transfer.

Holding the winner fixed, a transfer changes distribution within the group. If C delivers five additional ECU, C's account falls by five and the recipient's account rises by five. The total is unchanged. The productive universal-program variant explicitly adds a return: one ECU of funded universal cost generates two ECU of benefit. Before describing an allocation as more efficient, identify whether the winner, the technology, or merely the holder of resources changed. Average

role payoffs alone are insufficient to evaluate efficiency because role bases and bonuses are not identical.

Theoretical foundation

In the reference, a transfer does not depend on the voter's own ballot. To compare C and R, hold the received amount constant and ask whether the ballot can change the winner. The relevant monetary difference arises when the other four voters supply exactly two C ballots.

4.3 Pivotal voting and weak dominance

A ballot is pivotal when changing it changes the winner. If the other four supply two C ballots, choosing C produces a three-to-two C victory, whereas choosing R produces a three-to-two R victory. A reference voter then earns ten additional ECU by choosing R. If the others supply zero or one C ballot, R wins regardless of the person's choice. If they supply three or four, C wins either way. In those four cases, the person's ballot does not change their material payoff.

R therefore weakly dominates C in the reference: it never pays less and pays more in the pivotal situation. The word weakly is essential. It does not mean that every C ballot is strictly costly. A student who believes that their ballot cannot change the winner may be materially indifferent. With a positive probability of being pivotal and concern only for own earnings, R provides an expected advantage equal to ten times that probability. This reasoning connects individual calculation to uncertainty about others without requiring advanced equilibrium techniques from a nonspecialist instructor.

Other four C ballots	Winner if choosing C	Winner if choosing R	Advantage of R
0 or 1	R	R	0 ECU
2	C	R	10 ECU
3 or 4	C	C	0 ECU

Do not assert that all-R voting is the unique Nash equilibrium of the voting subgame, holding the allocation fixed. An equilibrium requires that nobody can improve their payoff by changing their own action alone. When four or five choose C in the reference, one changed ballot can leave C as winner; those voters may be indifferent, and such profiles can satisfy a weak equilibrium criterion. A profile with exactly three C ballots makes each C voter pivotal: switching to R increases that person's payoff. The instructional goal is to distinguish a weak-dominance benchmark from an incorrect claim of uniqueness.

4.4 Reciprocity and beliefs

A participant might value the sender's action and wish to reciprocate. A simple way to introduce this possibility is to add a subjective value of supporting C after receiving a benefit to the material comparison. There is no need to estimate that subjective value in class. Explain instead that, when a voter may be pivotal, reciprocating carries an expected cost; if the voter believes their action cannot change the winner, the material cost may be zero. The same observed support rate can thus be consistent with different combinations of preferences and beliefs.

Other explanations include a gratitude norm, an incorrectly perceived obligation, concern about future encounters, or a belief that C receives more information than the screen actually provides. Before attributing a pattern to reciprocity, check understanding. During feedback, ask what students believed would happen to a transfer after an R ballot, without requiring them to reveal

their own choices publicly. An incorrect answer suggests that the participant's perceived monetary comparison differed from the one specified by the experimental protocol. Understanding is a condition for interpreting behavior, not an optional preliminary detail.

C faces a separate decision problem. Transferring reduces current resources but may increase the chance of receiving the office bonus. A total transfer of fifteen would be profitable relative to zero if it increased the expected office bonus by more than fifteen. With a bonus of sixty, the required increase in victory probability is greater than one quarter. Observing an allocation does not establish that C calculated this threshold. The calculation instead illustrates the belief that could materially justify an expenditure and gives the instructor a concrete discussion tool.

4.5 Why contingent payment changes strategy

Under contingent payment, announced benefit b_i is paid only if $x_i = C$, including when C loses. The voter payoff becomes $10 + b_i \mathbf{1}\{x_i = C\} + u_i(W)$. C's cost equals actual payments rather than total announcements. With a positive offer and a nonpivotal ballot, choosing C yields the same winner as R and adds the offered amount. With a pivotal ballot, choosing C changes an R victory into a C victory, losing ten in outcome value while gaining at most five in the transfer.

For an offer of five, C's advantage is five when the other four supply zero, one, three, or four C ballots; it is negative five when they supply exactly two. C therefore does not become a dominant action. Nor must all-R remain an equilibrium: with five positive offers, a person can switch alone to C, keep R as winner, and collect their payment. A coalition of four C ballots may be sustainable under suitable offers because one departure leaves three C ballots and forfeits the individual reward without changing the winner.

Feedback script

Ask: "If the other four choose R, who wins under each of your choices, and which transfer do you receive? Now suppose the other four supply two C ballots. Did only your transfer change, or did the winner change too?" Resolve both cases before interpreting the percentage of C ballots.

Instructor report and interpretation

5.1 Controlled reveal and incomplete states

The report begins hidden. Instructors decide when to display it so that students do not react to outcomes while decisions are still being made. Its heading gives participant count and completed group-rounds relative to the expected total. A group-round is one group's election in one round. Two groups playing six rounds generate twelve group-rounds, not twelve participants. Each completed group-round contributes five voter decisions, one candidate decision, and, where applicable, one broker decision. Defining these units first prevents errors in the interpretation of graphs and sample sizes.

A pending round is neither an observed allocation of zero nor a C defeat. Aggregates exclude incomplete group-rounds. If none is complete, the report states that results are unavailable rather than inviting an interpretation of zeros as observed behavior. When one group finishes before another, the report represents a partial sample. If displaying it to explain the interface, state that it is partial and refresh before discussing final outcomes. Otherwise averages across screens or treatments might use different denominators without that difference being apparent to students.

oTree Demo Sessions Rooms Data Server Check Logout

[EN] Clientelism — one interaction: session 'un14gpea' (demo)

New Links Monitor Data Payments Report Description

App Name Round Number Go

clientelism_game (10 rounds) 10

BEER LAB

Instructor report: transfers and a ballot

Advance transfer and secret ballot

Aggregate results by role, distribution, and round. Identities and individual ballots are not shown.

Participants 12	Completed group-rounds 0 / 2	Pending group-rounds 2
---------------------------	--	----------------------------------

Show results Hide results

Figure 5.1: Aggregate results remain hidden until the instructor reveals them.

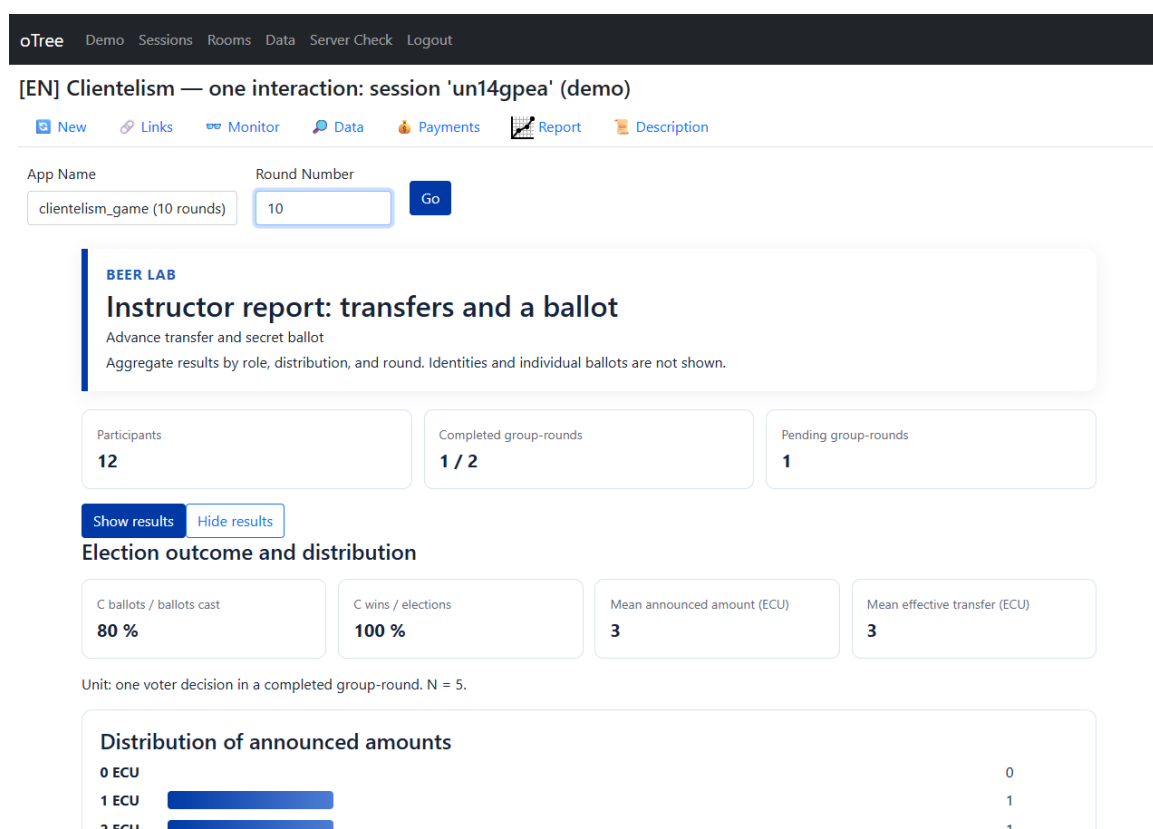


Figure 5.2: A partial report identifies completed and pending group-rounds.

5.2 Amount histogram and conditional support

The first chart is a histogram of announced amounts from zero to five ECU. Each bar counts voter decisions, not groups or candidates. Five amounts create five observations even though one person chose their distribution. The histogram distinguishes concentration at zero, equal amounts, and concentration at the ceiling. However, an aggregate histogram can appear egalitarian when different candidates favor different positions. To study distribution within groups, use administrative records without projecting identities. A marginal distribution is not a complete description of the allocation pattern that generated it.

The second chart displays support for C by announced amount. Within each category, the numerator counts C ballots and the denominator counts voters receiving that announcement. Three out of four means 75%, not three ballots out of all participants. A category with no observations displays a dash rather than a zero support rate. Always inspect category size: one C ballot out of one observation carries different descriptive weight from twenty out of twenty. The chart supplies counts precisely so that an apparently strong percentage is not mistaken for abundant evidence.

Amounts are chosen by C or the broker. They may target voters perceived as supportive or voters who previously supported C. A positive amount-support relationship consequently does not identify the causal effect of more money. It also does not automatically measure reciprocity. A causal comparison between institutional rules would require treatment assignment, comparability, and enough groups. The graph helps formulate questions and compare mechanisms, but does not replace a research design addressing selection and dependence. Present the distinction before students infer that a rising bar proves a specific behavioral explanation.

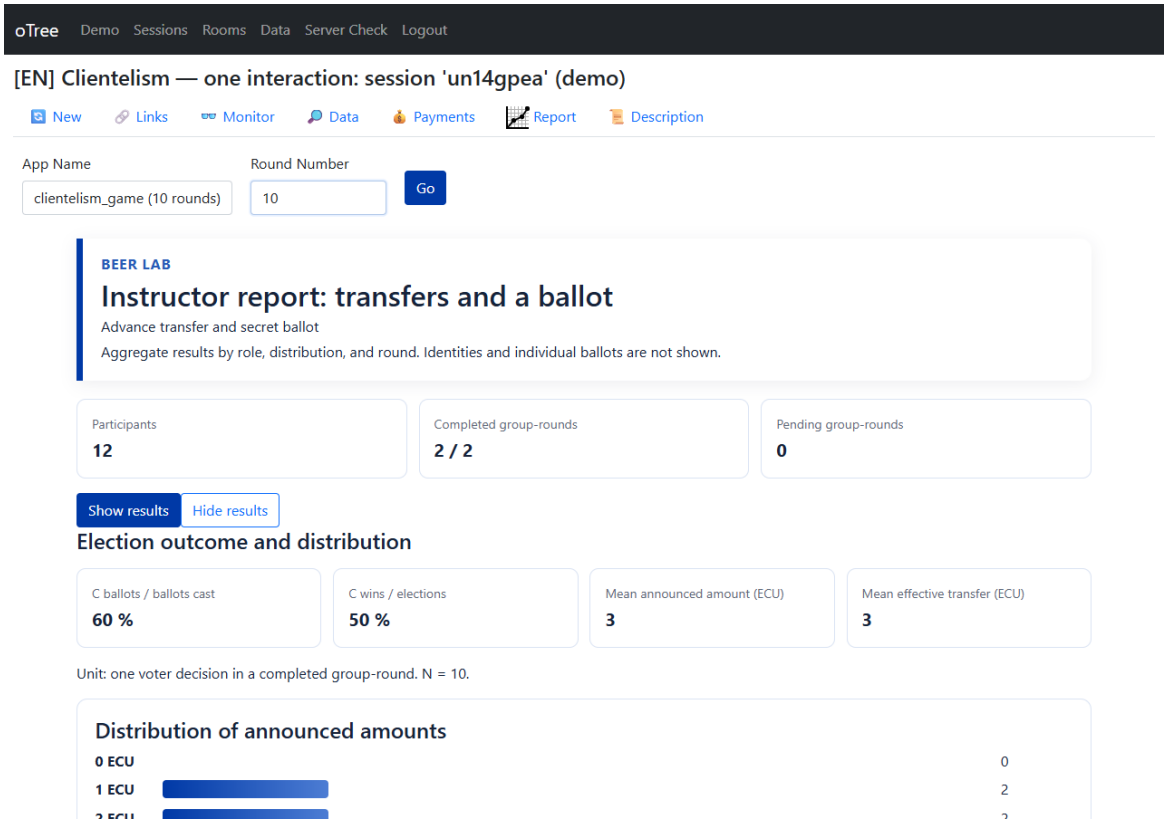


Figure 5.3: Final status and principal aggregates for the completed session.

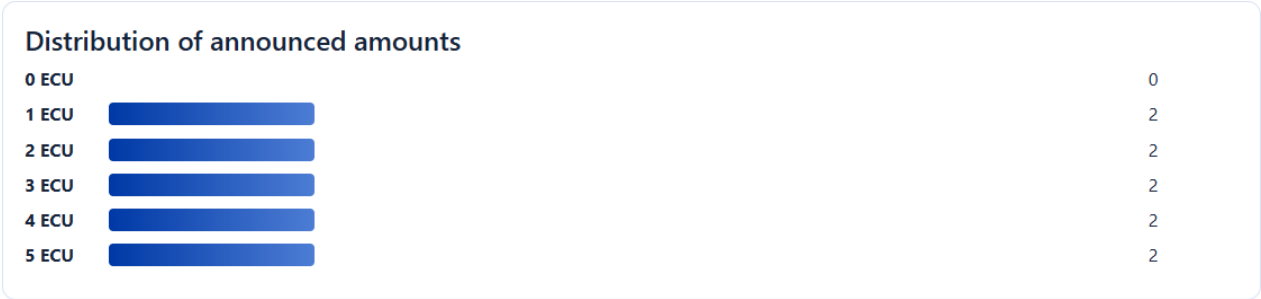


Figure 5.4: Complete announced-amount histogram with category counts.

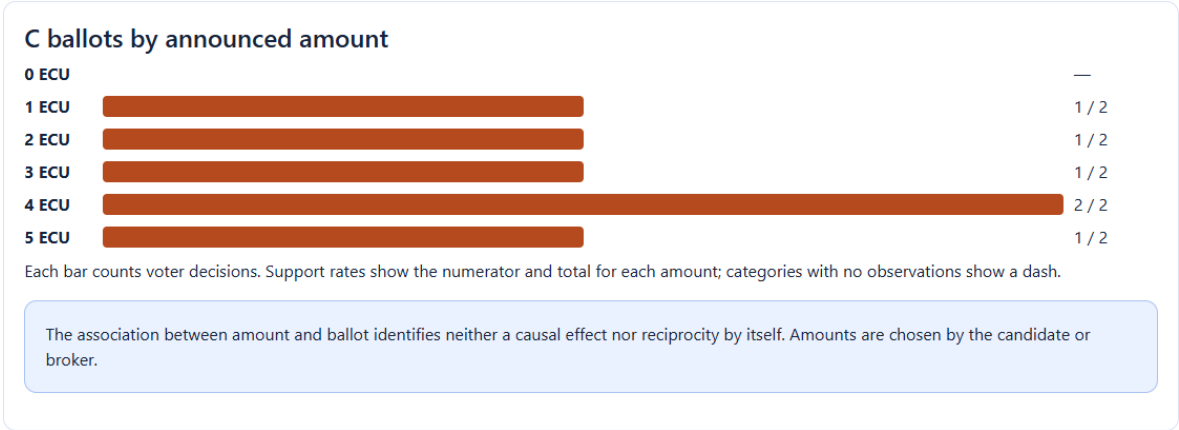


Figure 5.5: C support by amount: each bar is accompanied by its numerator and denominator.

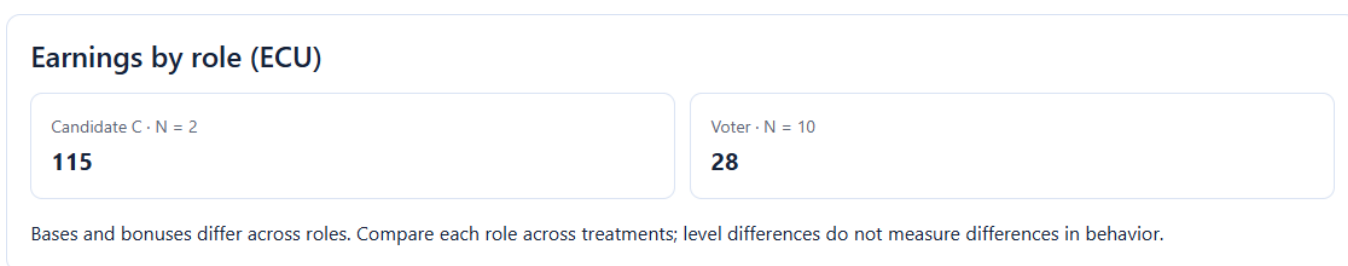


Figure 5.6: Separate earnings by role and their sample sizes.

5.3 Means, winners, and role comparisons

The C ballot percentage uses all ballots in completed group-rounds. The C victory percentage uses elections rather than ballots. C can receive 40% of aggregate ballots and win some elections if support is concentrated in particular groups. Conversely, an aggregate majority does not imply winning every group election. Ask why adding percentages across groups does not automatically reproduce the majority rule within each group. Students should recognize that a collective decision rule operates on a specified unit rather than on whichever aggregate is most convenient to display.

Mean announced amount and mean effective transfer coincide in the individual reference. Under contingent payment, they can diverge because R voters do not receive the announced amount. Under productive universal distribution, the funded transfer and the generated monetary benefit are different concepts. The report uses effective transfer for the funded resource; the treatment rule and exported data identify the additional benefit. Do not compare a cost under one technology with a benefit under another and call the difference generosity. Reconstruct the relevant component before comparing institutional outcomes.

Average earnings are displayed separately by role. C has a hundred-ECU endowment and an electoral bonus; voters have a ten-ECU base and a winner value; brokers have a base and a fee. Different levels follow from the design. To discuss behavior, compare candidates across comparable treatments, voters across comparable treatments, and brokers across brokerage rules. For total welfare, reconstruct the group sum and acknowledge the extra base introduced by the seventh participant. Differences in role averages cannot be read as different levels of rationality, selfishness, or experimental success.

5.4 Evolution and dependent observations

The round table shows changes in support, amounts, and transfers. Falling offers might reflect learning, reduced expectations of reciprocity, or adaptation to a seemingly stable majority. Rising offers might reflect attempts to attract support, responses to earlier outcomes, or exploration. Do not automatically call every trend a reputation effect. In fixed groups, earlier and later decisions belong to the same people and are not independent observations. Explain the possible history-dependent mechanisms while retaining alternative interpretations compatible with the available descriptive evidence.

Before comparing one interaction with ten rounds, hold information and payment rules constant and identify the changed horizon. Before comparing fixed groups with reassignment, hold round count constant and remember that roles persist. Sessions held on different days may differ in composition and prior exposure. Classroom observations provide useful descriptive evidence but often contain few groups for reliable statistical inference. The discussion should separate what happened, which mechanisms could explain it, and what additional comparison would distinguish them. This is more informative than announcing an unqualified treatment effect from one class.

5.5 Worked example of denominators

Suppose two groups complete one election each. C obtains four ballots in the first and two in the second. Aggregate support is six out of ten, or 60%, while the victory share is one out of two, or 50%. If the second group has not finished, the report uses four out of five and one out of one. Those partial figures are 80% and 100%, but neither is an appropriate description of the finished two-group session. Completion changes the denominator as well as the numerator.

Now let four voters receive an announcement of five, with three supporting C. Let the remaining six receive zero, with three supporting C. Conditional support is three out of four versus three out of six. The observed difference is twenty-five percentage points. It does not establish that offering five caused the difference, because the candidate chose recipients. The same counts could arise if offers targeted previously supportive positions. Ask students to propose random assignment of an offer or an institutional comparison rather than report a causal effect from the chart.

Finally distinguish announcement from payment. Under contingent rules, those three supportive recipients get fifteen in total, while the fourth receives nothing. Mean announcement among the four is five; mean effective payment is 3.75. Neither mean is wrong: they answer different questions. In the advance reference all four receive twenty in total regardless of ballots. This worked case links report labels to an accounting difference that students can verify without private identities or advanced statistical methods.

Extended variants: mechanisms and teaching use

6.1 Reference and full-observation duration

The extended reference uses six rounds, fixed groups, advance transfers, and secret ballots. It supports comparisons without automatically adding ten rounds to each activity. Full observation offers one, six, and ten rounds. In every case C receives all five numbered ballots after each election. Advance transfers remain nonrecoverable. Do not describe the information as an automatic sanction: C cannot withdraw resources already delivered. In repeated play, C can use what was learned when choosing subsequent distributions, making the available future action part of the institutional mechanism.

Compare a secret one-shot session with an observable one-shot session to discuss exposure without future opportunities. Compare six secret rounds with six observable rounds to discuss exposure and history together. [Stokes \(2005\)](#) provides a framework for repeated political control; [Chang \(2017\)](#) helps distinguish monitoring and reciprocity. These configurations do not implement every institution in those studies. Examine support and allocation by round rather than accumulated earnings alone. More rounds mechanically increase total earnings even when conduct within each round is unchanged, so accumulated totals are not the appropriate horizon comparison.

6.2 Partial observation with known probability

Two variants give each ballot an independent 25% or 75% probability of observation. The draw occurs after voting; C learns only selected ballots. There are no false signals: an observed ballot is the actual ballot, and an unobserved ballot remains unknown. Uncertainty concerns disclosure rather than signal accuracy. Transfers remain advance and nonrecoverable, and the horizon is six rounds with fixed groups. Students should not infer that a 75% observation probability guarantees learning four of five ballots in each election.

The comparison asks whether a higher likelihood of exposure changes support or later distributions. There is no universal prediction without specifying preferences and expected consequences. Under strict current material interest, later disclosure does not alter current payoffs; repetition may change expectations about future offers. During feedback compare outcomes by round and ask what C could actually do with the information. A realized disclosure share different from the announced probability is possible in a small sample and does not itself indicate a malfunction. Independent draws need not yield identical disclosure counts across groups.

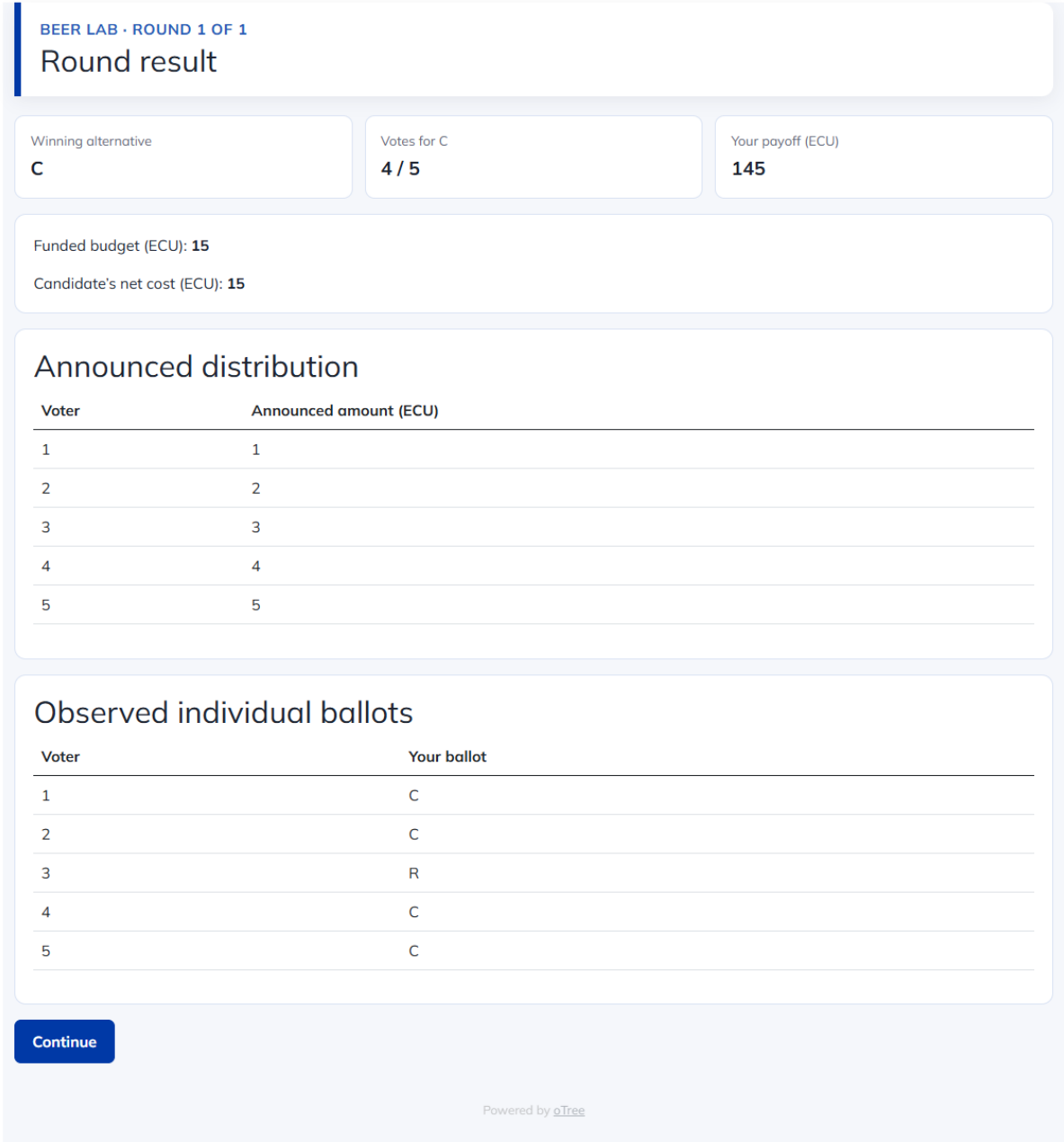


Figure 6.1: Under full observation C learns numbered ballots afterward; advance transfers remain nonrecoverable.

6.3 Contingent payment and verification

The contingent variant announces amounts before voting and pays afterward only for C ballots. Every ballot is verifiable and revealed to C. This changes both the payment rule and observability; it does not isolate monitoring alone. The closest comparison for discussing enforcement is full observation with advance payment. C learns ballots in both cases, but only the contingent system links payment to them. Preserve this distinction when displaying charts and asking which mechanism changed incentives. It helps students separate information acquisition from the implementation of a consequence.

The announcement histogram describes proposed amounts, whereas mean effective transfer describes money actually paid. Show a case with five announcements of five and only two C ballots: ten is paid, C loses, and C keeps ninety of the endowment. Those two voters receive thirty-five under R, while the others receive thirty. Then solve a pivotal case to explain why a positive announcement does not make C dominant. Monitoring and reciprocity literature motivates the comparison; automatic conditional settlement is an explicit classroom adaptation rather than a claim about the enforceability of real ballots.



BEER LAB · ROUND 1 OF 6

Choose C or R

Announced transfer if you vote C (ECU)

1 ECU

Your ballot joins the other four ballots. The alternative's value depends on the winner. Check your values and the payment rule before confirming.

If C wins

10 ECU

Value of the alternative · Base: 10 ECU

If R wins

20 ECU

Value of the alternative · Base: 10 ECU

In this session, the announced amount is paid after the election only to voters who choose C, even if R wins. Voters choosing R receive no transfer. The system verifies every ballot, and C learns each ballot at the end of the round. After voting, C sees the ballot of each numbered voter. Other voters do not see individual ballots.

Choose C or R

☐ Vote C
 ☐ Vote R

Confirm decision

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Figure 6.2: The contingent ballot labels the amount as payable only after choosing C.

6.4 Broker with private distribution

C funds a budget from zero to twenty-five ECU. The broker chooses five amounts from zero to five with a total no greater than the funded budget and keeps the remainder. C loses the funded budget,

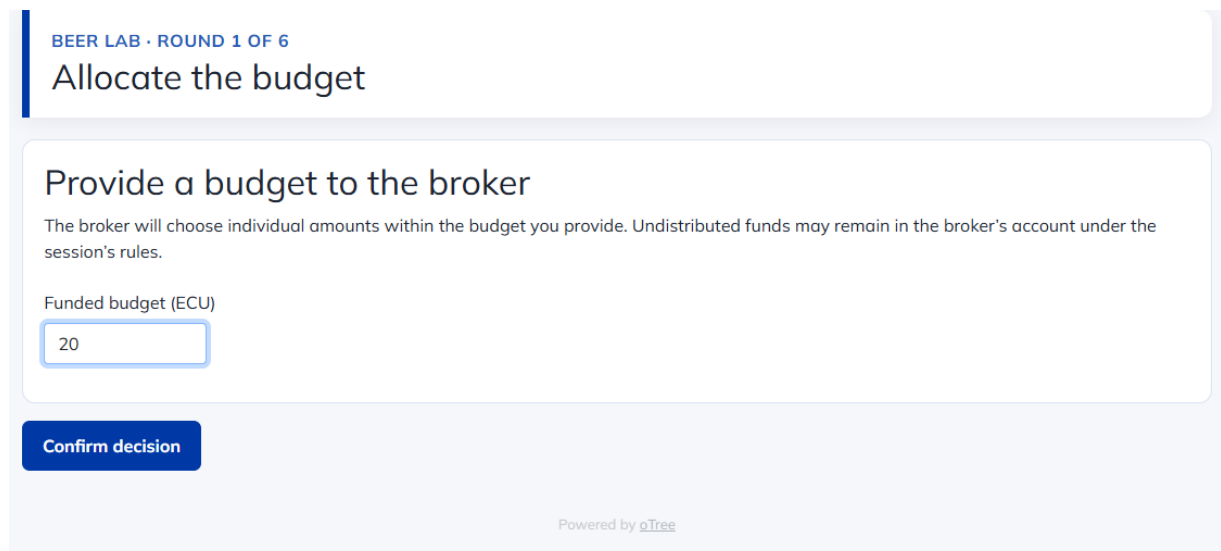
not merely the resource reaching voters. The broker receives a ten-ECU base and a ten-ECU commission if C wins, paid from the sixty-ECU office bonus. C therefore keeps fifty of that bonus, preserving the accounting of this component. Individual ballots remain secret, and the broker's personal payoff is not displayed to other voters.

C knows the funded budget and election outcome but not individual amounts delivered. Each voter knows their own amount. Delegation creates an incentive problem: distributing may help the candidate, while retaining may increase broker income. The commission creates interest in victory without guaranteeing full distribution. Stokes and colleagues (2013) and Ravanilla and colleagues (2022) motivate questions about brokers; this seven-person protocol does not reproduce their social networks or field evidence. Its value lies in making a funded budget, discretion, and compensation rule explicit enough for students to calculate tradeoffs.

6.5 Distribution transparency and recovery review

Transparency lets C learn the five distributed amounts at the end of the round while individual ballots remain secret. In one interaction, later observation cannot alter what already happened; under repetition, it may influence subsequent budgets. Inspect mean funded budget, retained balance, and support over time. Low retention is consistent with interest in the commission, anticipation of C's future decisions, or preferences for distributing resources. Transparency imposes neither a fine nor automatic recovery. The instructor should identify this informational change before presenting it as stronger enforcement.

Independent review creates an 80% probability of recovering the broker's entire retained balance and returning it to C. It does not confiscate the broker's base or commission. With a budget of twenty and distributions totaling fifteen, retention is five. If recovery occurs, C gets five back and the broker loses only those five. Before the draw, expected retained income is one ECU. This reduces the material return to retention, even though the review reveals no ballots or individual distributions to C. A completed recovery can involve zero funds if the broker had retained nothing.



BEER LAB · ROUND 1 OF 6

Allocate the budget

Provide a budget to the broker

The broker will choose individual amounts within the budget you provide. Undistributed funds may remain in the broker's account under the session's rules.

Funded budget (ECU)

Confirm decision

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Figure 6.3: C funds the budget administered by the broker.

BEER LAB · ROUND 1 OF 6

Distribute the funded budget

Available budget (ECU)
20

The total cannot exceed the budget funded by C. Each amount must lie between 0 and 5 ECU.

The undistributed balance adds to your payoff unless a review recovers it. Individual amounts and ballots are private. A review with an 80% probability returns the broker's retained balance to C.

1	2	3	4	5
Voter 1	Voter 2	Voter 3	Voter 4	Voter 5
1	2	3	4	5

Total cost (ECU)
15

Undistributed balance (ECU)
5

Confirm decision

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Figure 6.4: The broker allocates within the funded budget and observes the undistributed balance.

BEER LAB · ROUND 1 OF 6

Round result

Winning alternative C	Votes for C 3 / 5	Your payoff (ECU) 25
---------------------------------	-----------------------------	--------------------------------

Retained balance before review (ECU): **5**

Recovered budget (ECU): **0**

The review did not recover funds this round.

Continue

Powered by [oTree](#)

Figure 6.5: Broker result with retention, recovery, and own earnings.

6.6 Individual amounts versus universal distribution

When distribution mode is selectable, C chooses between five individual amounts and one universal level paid equally to all. The same budget ceiling applies, and each ECU of cost produces one ECU of aggregate benefit in either mode. Universal level three costs fifteen and delivers three to each person; allocation (1, 2, 3, 4, 5) also costs fifteen but is unequal. This comparison separates coverage and equality without automatically imposing a productivity advantage. The equal budget is essential to explaining what is held constant between the available instruments.

The mandatory-universal version removes the mode choice: C selects only the level. Compare it with the reference to examine an institutional restriction and with mode choice to discuss endogenous instrument selection. [Wantchekon \(2003\)](#) and [Fujiwara and Wantchekon \(2013\)](#) provide evidence about programmatic messages and deliberation, not the effect of these ECU distributions. The exercise translates a distributive distinction into a classroom choice. A small universal allocation is not a complete public policy, and an individual allocation is not evidence that a participant engaged in an illegal real-world act.

6.7 Universal program with added productivity

This variant retains universal distribution but makes each ECU of level produce two ECU of individual benefit. Cost to C remains five times the level. Level three costs fifteen and generates thirty of aggregate benefit; its reference counterpart generates fifteen. Compare with universal productivity one to keep distribution mode constant. A direct comparison with individual transfers changes mode and technology together, so it cannot attribute outcomes to a single characteristic. Explaining the proper comparison is part of the activity rather than a technical detail reserved for later research.

The productive program is a design assumption, not a claim that every real universal policy doubles resources. Relevant outcomes include the funded level, victory, role earnings, and the calculated extra benefit. Ask who receives the return and whether C has a reason to fund it even when every voter prefers R. Universal benefit is independent of winner and own ballot, so it is not a contingent electoral reward. A larger benefit can change subjective motives without changing the pivotal difference between the alternatives when both retain the same winner values.

6.8 Public and private heterogeneous values

These variants assign C values of ten, ten, twenty, twenty, and thirty, maintaining twenty for R. Assignment is permuted across positions when groups form and remains fixed during repeated play. Each voter knows their own values. With public values, C knows the assignment across all five positions; with private values, C knows the list but not who holds each value. The task asks no questions about ideology. Controlled monetary values vary incentives over the winning alternative without inviting personal political disclosures or relying on students' actual partisan preferences.

Voters valuing C at thirty materially prefer a C victory; those valuing C at ten prefer R; those with twenty are indifferent about the winner. Advance amounts do not change those differences for pivotal voters, although other motives can change. Public information may let C direct resources to particular positions, but several strategies remain possible because transfers do not enforce ballots. Compare concentration of amounts and support while recognizing that a histogram alone does not reveal which assigned values received resources. Administrative data can answer that question without displaying identities during feedback.



BEER LAB · ROUND 1 OF 6

Allocate the budget

Enter the amount for each voter. Numbers identify positions within the group, not people or computers. Confirm after checking the total.

C chooses individual amounts or a universal level. Both use the same budget and do not multiply benefits.

Distribution mode

- ☐ Individual amounts
☒ Universal level

Level per voter (ECU)

3

Cost: $5 \times \text{level}$. The maximum level per voter is 5 ECU.

Total cost (ECU)

15

Undistributed balance (ECU)

10

Confirm decision

Powered by [oTree](#)

Figure 6.6: C selects distribution mode with comparable budget and productivity.



BEER LAB · ROUND 1 OF 6

Choose C or R

Universal benefit (ECU) **6 ECU**

Your ballot joins the other four ballots. The alternative's value depends on the winner. Check your values and the payment rule before confirming.

If C wins
10 ECU
Value of the alternative · Base: 10 ECU

If R wins
20 ECU
Value of the alternative · Base: 10 ECU

The distribution is a transfer received before voting. It is not returned if you vote R or if C loses. Receiving it does not impose an obligation to vote for the sender.

C learns only the total number of C ballots, not who cast them.

Choose C or R

☐ Vote C

☐ Vote R

Confirm decision

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Figure 6.7: The productive universal benefit is distinguished from the funded cost.



BEER LAB · ROUND 1 OF 6
Allocate the budget

Enter the amount for each voter. Numbers identify positions within the group, not people or computers. Confirm after checking the total.

Voters have different values for C, and C knows the assignment to each position. Ballots are secret.

1 Voter 1 1 C: 10 ECU · R: 20 ECU	2 Voter 2 2 C: 20 ECU · R: 20 ECU	3 Voter 3 3 C: 10 ECU · R: 20 ECU	4 Voter 4 4 C: 20 ECU · R: 20 ECU	5 Voter 5 5 C: 30 ECU · R: 20 ECU
--	--	--	--	--

Total cost (ECU) 15	Undistributed balance (ECU) 10
-------------------------------	--

Confirm decision

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Figure 6.8: Only with public values does C see each position's monetary value.



BEER LAB · ROUND 1 OF 6
Choose C or R

Transfer already received (ECU) **3 ECU**

Your ballot joins the other four ballots. The alternative's value depends on the winner. Check your values and the payment rule before confirming.

If C wins
20 ECU
Value of the alternative · Base: 10 ECU

If R wins
20 ECU
Value of the alternative · Base: 10 ECU

The distribution is a transfer received before voting. It is not returned if you vote R or if C loses. Receiving it does not impose an obligation to vote for the sender.
C learns only the total number of C ballots, not who cast them.

Choose C or R
☐ Vote C
☐ Vote R

Confirm decision

Powered by [oTree](#)

Figure 6.9: Voters know their own values even when C does not know their assignment.

Literature and the interpretation of evidence

7.1 Reciprocity, observation, and political control

[Finan and Schechter \(2012\)](#) connect evidence on vote buying with experimental measures of reciprocity in Paraguay. Their work helps explain why an advance benefit could motivate support without a perfectly enforceable contract. Our percentage of C ballots is not their reciprocity measure. This classroom session includes neither their separate measurement instrument nor an identification of who would be reciprocal in an actual election. Use the article to motivate a mechanism, not to validate automatically any positive amount-support association observed in class. The distinction also clarifies why behavioral interpretation requires more than a single outcome chart.

[Chang \(2017\)](#) experimentally studies monitoring and reciprocity, distinguishing observation of participation from observation of choice. This is useful because some conduct is easier to observe than other conduct and because preference congruence changes the cost of reciprocating. Our protocol offers no abstention and therefore cannot identify turnout-monitoring effects. It varies ballot disclosure and implements a separate contingent-payment rule. State that difference when recommending the article. A source can motivate a question without being a literal source for every parameter or institutional feature of the classroom version.

[Stokes \(2005\)](#) develops a formal framework for political control under repeated interaction and inference about imperfectly observable conduct. Subsequent ballot information may matter through its relationship to future benefits. Fixed positions and rounds allow that logic to be discussed here, but previous transfers cannot be recovered and C has only programmed actions. The classroom activity does not reproduce a full political machine, an unlimited credible threat, or the actual elimination of ballot secrecy in a country. Keep the formal institutional analogy separate from claims about participants or particular political systems.

7.2 Brokerage and programmatic distribution

Stokes, Dunning, Nazareno, and Brusco (2013) provide a broad reference on brokers and distributive politics. Ravanilla, Haim, and Hicken (2022) examine networks, reciprocity, and brokerage. These sources help ask who distributes resources, what they know, and which incentives they face. Our seven-person variant translates those questions into an explicit budget and fee. It contains neither personal ties nor the complete informal information of a political network. The game's retained balance is also not an empirical measurement of corruption outside the laboratory. Explain the adaptation before interpreting retention as a political phenomenon.

Wantchekon (2003) examines clientelist and programmatic messages through an electoral intervention in Benin. Fujiwara and Wantchekon (2013) study informed public deliberation in that setting. These articles establish the relevance of distinguishing proposals and mobilization mechanisms, but their interventions differ from five classroom amounts. Here budget and return are held constant for a mode comparison, after which productivity is changed explicitly. Present field evidence with its institutions and context rather than carrying numerical findings over as classroom predictions. The guide's calculations follow its stated rules, while empirical interpretation requires an additional argument about correspondence between settings.

Attention

A simulation does not demonstrate that a student sells their ballot or that a real institution necessarily produces a given outcome. Roles are abstract and payoffs experimental. Discuss mechanisms and limits without labeling people or requesting public admissions about private choices.

7.3 Using readings with nonspecialists

For a short preparation task, assign one reading and ask the instructor or student to complete three sentences: the mechanism studied is; the behavior observed is; the classroom feature corresponding to that mechanism is. Require a fourth sentence identifying a feature that does not correspond. This prevents a reference from being treated as authority for every rule in the software. A reader can recognize a useful analogy while still documenting where the original setting and classroom protocol differ.

During discussion, distinguish a theoretical prediction from an empirical finding and an adaptation parameter. A prediction follows from assumptions; a finding concerns participants in a particular design; a parameter such as the budget ceiling specifies our teaching activity. Ask which category each claim belongs to before assessing it. Students should not infer an empirical effect from a formula, nor treat a field estimate as an equilibrium condition. This reading procedure is especially useful when the course combines political institutions with economic reasoning and participants have different levels of technical preparation.

Class plans, exercises, and suggested answers

8.1 A sixty-minute introductory session

Before students arrive, spend ten minutes checking connections, room assignment, and session configuration. During the first eight classroom minutes explain that decisions are monetary and outcomes will be discussed in aggregate. Allow ten for welcome, instructions, and comprehension; five for allocation and voting; seven for checking rules and payoffs; twenty for report interpretation and examples; and ten for linking mechanisms to literature. Adapt timing to the class's experience and retain the feedback even if connectivity requires fewer decisions. Collecting choices without explaining them does not fulfill the teaching objective.

A neutral introduction is: "You will make decisions in groups. The screen specifies what each role receives, which actions are available, and what information will be disclosed. Work individually. Raise your hand if a rule is unclear. We will discuss aggregate outcomes afterward." Do not announce that the aim is to prove reciprocity, the protective effect of secrecy, or broker retention. Such claims can influence conduct before evidence exists to discuss. The instructor should explain how to participate rather than supply a moral or strategic interpretation of the alternatives.

After completion, first ask which payoff component depended on the person's ballot and which depended on the winner. Solve the fifteen-ECU allocation example. Reveal the histogram, identify its unit, and compare it with support by amount. Then introduce the pivotal case with two C ballots among the other four. Finally propose alternative mechanisms for departures from the material benchmark. This sequence starts with observations and arithmetic, reserving behavioral explanations until the class shares an understanding of the rules. It is usable even when the observed pattern differs from the instructor's expectation.

8.2 A ninety-minute institutional comparison

Select two treatments differing primarily in one characteristic. One option is a secret reference against full observation, both over six rounds. Another is universal productivity one against productivity two. Allow fifteen minutes for instructions and comprehension, twenty-five for the first block, twenty for the second, and thirty for results and discussion. Decision time will vary; do not force rapid responses before checking that everyone understands budget and settlement. The schedule is a teaching allocation rather than a software deadline or an instruction to discard students who need clarification.

When the same class plays both treatments, the second block includes prior experience. Alternate

order across groups or sessions where the operational design allows it, and document the procedure. If this is impossible, present the comparison as illustrative and acknowledge order effects. Do not introduce four simultaneous changes and attribute the entire difference to ballot secrecy. Available configurations allow a manageable classroom comparison without limiting the wider set of useful variants offered to other instructors. A careful two-treatment class can illustrate more than a hurried tour through every available option.

8.3 Exercise: reconstructing accounts

Give each voter a transfer of two and let C win with four ballots. Expenditure is ten, C's payoff is one hundred fifty, and each voter's payoff is twenty-two. The group total is two hundred sixty. Change only the winner to R: C receives ninety and each voter thirty-two, totaling two hundred fifty. Ask why the total changes despite the identical distribution. The answer combines C's electoral bonus with the winner-value change for five people. It is not a budget leak, because transfers cancel between sender and recipients.

Next ask a voter to switch from C to R when the other four supply three C ballots. C remains the winner and the reference payoff is unchanged. If the others supply two, the winner switches to R and the voter gains ten. This illustrates why every C action cannot be called an individual income loss. It also introduces unilateral deviation: assessing an incentive requires changing one person's action while holding other actions fixed, not comparing two arbitrary collective outcomes in which everybody behaves differently.

8.4 Exercise: announcements and contingent transfers

C announces five to every voter. Two choose C and three choose R. Announcements total twenty-five but effective transfers total ten. R wins and C keeps ninety. C voters receive thirty-five while R voters receive thirty. Now consider an R voter switching when the remaining four include exactly two C ballots. Switching gives C victory and a payoff of twenty-five; remaining with R gives thirty. In this pivotal situation, rejecting the contingent transfer is materially better by five. Students should calculate the winning outcome as well as the announced amount.

Change the scenario so that every other voter chooses R. Switching alone to C leaves R as winner and yields thirty-five instead of thirty. Neither "C always pays because of the reward" nor "R always pays because of the policy" is correct. The answer depends on pivotality and payment rules. Ask students to build a table containing winner, transfer, and total payoff for both actions. A fully specified table often resolves confusion more effectively than an abstract debate over rationality, especially for participants encountering strategic voting for the first time.

8.5 Exercise: delegated budgets

C funds twenty; the broker distributes two to each voter and retains ten. If C wins without recovery, C receives one hundred thirty, each voter twenty-two, and the broker thirty: ten base, ten retention, and ten fee. If review recovers retained funds, C receives one hundred forty and the broker twenty. Total resources remain unchanged. The change redistributes money rather than creating it. Voter values are unchanged because recovery does not affect resources already distributed to them or the winning alternative.

Before the review draw, expected income from retaining ten is two under an 80% recovery probability. This alone does not predict the chosen distribution because distribution may alter the chance of

earning the fee. Introduce a hypothetical increase in that chance and compare its expected benefit with expected retention income. The exercise teaches a principal–agent problem without asserting that a given recovery probability produces a unique action. Students should identify the tradeoff, the relevant expectation, and the information that would be needed to calculate a particular best response.

8.6 Exercise: separating mode from technology

Compare universal level three with individual amounts one, two, three, four, and five. Both cost fifteen and generate fifteen in aggregate benefit at productivity one. They differ in who receives how much. Then compare universal level three at productivity two: cost remains fifteen while benefit becomes thirty. That comparison changes return as well as benefit size. Increased C support is compatible with gratitude, larger overall benefits, or changed expectations; it cannot all be attributed to equal distribution. The design should determine which interpretation is actually identified.

Ask students to propose a comparison holding technology constant to study universal coverage, and another holding mode constant to study productivity. Answers are individual versus universal at productivity one, and universal one versus universal two. When C chooses mode, recognize selection: observed universal choices may come from candidates with different preferences or strategies. Mandatory universal distribution helps distinguish choosing an instrument from exposure to an institutional restriction. A good answer states what is held constant and what changes instead of relying only on treatment names.

8.7 Conceptual conclusion and assessment

A strong answer distinguishes transfers, obligations, information, and enforcement. Ask for an example explaining why secret ballots need not eliminate reciprocity and why observable ballots are not equivalent to contingent payment. Request the denominator of support by amount and recognition that amounts were not randomly assigned. For a brief assessment, present a hypothetical graph and ask for two compatible mechanisms plus an additional comparison that could discriminate between them. Grade reasoning and conditions rather than repetition of a label. Students should be able to reconstruct the connection between a rule and an incentive.

Organize the conclusion around three questions: what each role knew when deciding, which material consequence it could change, and which institution modifies that consequence. An earlier transfer may motivate gratitude without creating an automatic contract. Observing ballots supplies information, but future consequences require available actions. Delegating a budget introduces additional incentives. Universal coverage does not imply greater productivity unless that return has explicitly been specified. These distinctions connect the activity to political science, political economy, information, and contracts while preserving the precision of the experimental setup.

Data, good practice, and troubleshooting

9.1 Export and responsible analysis

Exports record session, participant code, round, role, treatment, group, announced amount, effective transfer, distribution benefit, ballot, observation, assigned values, funded budget, retention, recovery, winner, and earnings. Participant codes are technical data identifiers rather than names that should appear in projected material. Store files in an authorized location and share aggregate tables prepared for the teaching objective. Do not merge treatment exports without retaining a treatment column. A record of the configuration and any classroom incident will help interpret unexpected patterns more effectively than a file containing outcomes alone.

For offers, the natural unit is a candidate within a group-round; for ballots, a voter within a group-round; for victory, an election. Ten observations from one person do not create ten independent people. Statistical comparisons require attention to grouping, sample size, and treatment assignment. Small classes should emphasize distributions, worked accounts, and descriptive evidence. If an exercise becomes research, coordinate consent, incentives, and data protection with the relevant institutional procedures before collecting information for that purpose. The teaching interface does not by itself establish that requirements for a research project have been met.

9.2 Frequent operational problems

If a room waits indefinitely before welcome, check that an active session is assigned. If a participant waits inside the activity, inspect which role has not submitted its decision. If an old link reports a missing participant, return to the stable room link and verify the session rather than interpreting the message as a comprehension problem. If Demo shows unrelated families, check instance isolation before class. This instance should display clientelism alone. A hostname is an access route; proper configuration determines which family, database, and rooms it exposes.

If the histogram is absent, first confirm that a group-round has completed and that Show results was clicked. If bars contain few cases, inspect pending counts and refresh after completion. If a total is rejected, distinguish individual limits from the overall ceiling and, with brokers, the budget actually funded. If a universal variant appears to deliver more benefit than funded cost, check whether it uses productivity two. That difference is an explicit treatment rule rather than an accounting malfunction. Resolve the rule before assuming a technical error or modifying the protocol.

Do not alter language, treatment, or group size after a session starts. Create a new session

for a different comparison and retain the previous one. Do not clear a database to release a waiting student; first inspect Monitor and pending decisions. Do not share the instructor password with participants as a way of resolving access. Laboratory administrators manage deployment, credentials, and connectivity; instructors control explanations, result revelation, and feedback. Keeping these responsibilities clear preserves both a usable workflow and the interpretation of the decisions collected during class.

The application-specific export includes only active rounds. The standard oTree file may retain columns for all ten technical rounds. Do not interpret inactive-round values as zero decisions or include them in analysis. Preserve treatment, active round, and completion status when preparing data for classroom use.

9.3 A simple analysis worksheet

Create a worksheet with one row for each completed group-round. Include treatment, round, group, funded budget, announced total, effective total, winner, and role earnings. Mark incomplete rows as missing outcomes rather than filling them with zeros. A zero distribution is a valid completed decision, so it must remain distinguishable from a pending election. Add a second worksheet with one row per voter decision when studying the amount histogram. These sheets answer different questions and should not be pooled as if every row represented the same experimental unit.

For a reference group, check that the five announced amounts sum to the candidate's cost and that announced and effective totals agree. For a contingent group, check that effective total sums only amounts attached to C ballots. For a broker group, candidate cost is funded budget minus recovery, not necessarily the sum received by voters. For a productive universal group, benefit is twice the financed amount. These four checks are enough to detect the most common interpretation errors without requiring the instructor to inspect program internals or alter the server.

When combining sessions, retain a column indicating whether observations came from a first exposure or a later treatment. Label the comparison by the rule that changed rather than by session creation order alone. Report the number of groups, rounds, and voter decisions separately. A table stating only a large number of voter decisions can obscure that it comes from very few persistent groups. Keep a short note describing interruptions, clarifications, and incomplete decisions so that an unexpected pattern is not automatically assigned to preferences.

Before giving students a data exercise, provide one correctly solved row and ask them to reconstruct another. Let them calculate conditional support with counts and explain what additional information would be required for a causal claim. Share aggregate or appropriately prepared records, not a roster linking participants to ballots. The instructional purpose is to learn accounting, institutional comparison, and careful inference; access to personal identities adds no value to those tasks. The resulting worksheet can support a follow-up assignment while preserving the separation between classroom feedback and administrative records.

For the instructor

Before ending class, confirm completion, refresh the report, identify denominators, export the session, record incidents, and preserve the distinction between observed patterns and mechanisms. Do not connect projected private decisions to named participants.

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