



Instructor Guide: Plea Bargaining and Admissions of Responsibility

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 the preparation, implementation, and classroom discussion of the plea bargaining and admissions of responsibility activity available through the Behavioral and Experimental Economics Research Lab (BEER Lab) at the Department of Economics of Tecnológico de Monterrey. It is intended for instructors with different levels of familiarity with experimental and behavioral economics.

The document offers three reading paths. The **quick guide** is enough to launch a session. The operational chapters explain each screen used by instructors and students. The conceptual chapters present the theories, predictions, and empirical findings needed to lead the post-game discussion.

Access instructions and common screens are explained once. Each variant then focuses only on what changes relative to the basic game: configuration, group size, decisions, predictions, relevant outcomes, and academic literature.

Author

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For the instructor

This guide follows the English-language interface. Spanish configurations use the same logic. Never project individual codes or connect outcomes to names, student identification numbers, or seats in the room.

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Preparation and access

1.1 Family overview

Purpose	Compare agreements, imperfect evidence, and review safeguards to separate procedural savings from attribution errors.
Experimental unit	a group of 2 people per case
Participants	Multiples of 2; minimum 2.
Suggested duration	20–40 minutes of play; 60–90 with discussion.
Basic edition	One case; ten with fixed groups or rematching with stable roles.
Extended edition	9 conditions, including the reference; ten cases.
Decision	plea bargaining, imperfect evidence, judicial errors
Payoff	ECU per case; sum of active cases. See role-specific accounts.
Topics	plea bargaining; imperfect evidence; judicial errors; defense; review
JEL	C92, K14, K41

1.2 Locate the activity and choose a comparison

Start at <https://beer-lab.org/en/> and select CLASSROOM in the top menu. This opens <https://teaching.beer-lab.org/en/>, where you can search for this activity by title and filter by topic or JEL code. The card distinguishes Español and English; Show extended version changes the edition. The directory language does not by itself determine the session language. Check the configuration name before creating a session and clear filters from an earlier search if the card is missing.

The stable address for this family is <https://pleabargaining.beer-lab.org>. Participants enter through https://pleabargaining.beer-lab.org/room/plea_bargaining_en; instructors prepare sessions through <https://pleabargaining.beer-lab.org/demo> or <https://pleabargaining.beer-lab.org/rooms>. The preview verified on this computer is <http://localhost:8211/demo>. A local address works only on the computer running it. Classroom use across several devices requires the institutional instance. If the card is not yet visible, its catalog integration remains to be completed. Do not substitute a similar family and thereby change the rules without noticing.

Distinguish four links. The room is the entry point shared with the class. The instructor panel selects configurations and creates sessions. An individual link identifies one specific participant slot and belongs to one person. The report belongs to that session and contains information

reserved for the instructor. Sharing the panel is different from sharing the room: it can expose administrative controls or outcomes that should still remain hidden.

Before inviting participants, define a question: which institution will you compare, and what outcome would be compatible with the proposed mechanism? Select the reference condition and one extension that changes the relevant dimension. Record what remains constant, how you will assign conditions, and when discussion begins. Changing several rules simultaneously can create an interesting class, but prevents attribution of the observed difference to just one rule. The extensions support several lessons; they need not all be run in a single meeting.

1.3 Prepare a usable session

The experimental unit in this family is a group of 2 people per case. The roles are Proposer, Case holder. Prepare 2 slots per interactive unit where applicable, and check the requirement displayed by the creation form. Rematching needs several units for composition to change; with only one unit there is no alternative counterpart. In an individual activity, each student advances independently. Do not add artificial participants to a real session merely to complete groups: this changes both the experience and the data you intend to discuss.

Open a demonstration beforehand. Read the instructions from every role and solve one numerical example by hand. Check the reference balance, resources already committed, transfers, and costs that consume resources. A starting figure of 100 ECU does not imply that everyone can spend 100 on every decision. Some games subtract a loss or an invested claim before choices occur. Final payment appears at case completion and accumulated payment adds all active cases. This guide explains how to reconstruct those values independently of the results screen.

ECU means Experimental Currency Units. They are the activity's accounting unit, not an automatic equivalence with pesos or dollars. This delivery does not announce a cash conversion. If the laboratory organizes a paid session, agree and communicate the exchange rate and payment rule beforehand. Do not associate higher earnings with a better grade: maximizing points and producing a well-supported academic explanation are different objects of assessment.

Allow time for reading and private questions. Check that each device can enter the room and that participants do not share an individual link. Project only public instructions. A student viewing a private file should not display it to the entire class. Prepare an alternative for someone who does not participate: they can examine aggregated outcomes after the activity and solve the same conceptual exercise without receiving private information during decisions.

For the instructor

Before starting, confirm title, language, edition, number of cases, and participant count. Demo and Rooms must contain only this family's configurations and four rooms. If another game appears, consult laboratory coordination before starting. Correct filtering protects both the instructions and subsequent downloads.

1.4 Accompany the participant sequence

The welcome page introduces the laboratory and its rules: decide privately, remain silent, and seek assistance without communicating decisions. Instructions, the session's specific condition, and comprehension questions follow. These questions check resources, number of cases, ECU meaning, and a central mechanism. An incorrect answer produces a corrective explanation. Ask the student to identify the relevant rule before submitting again; do not treat that error as evidence about

preferences or strategy.

After comprehension, the case page identifies position and period. Decision pages appear when that role must act. In interactive games, waiting pages allow the program to collect the information required before advancing. Waiting does not reveal another person's decision and does not mean a choice was rejected. The individual activity has no synchronization between participants. The instructor should distinguish expected synchronization from a connectivity problem.

Case results show payments and accounting components. The closing page states that the activity is finished and asks participants to remain there. Do not launch another session in the same tab until discussion has ended or data have been saved. If a student finishes early, request silence. Comments about offers, votes, or losses can affect people who are still deciding, particularly in repeated versions.

What participants will see

Each person receives the information needed for their own role. A screen can display a private balance or file that other positions do not know. Instructor assistance should clarify what a rule means without recommending an option or revealing what happened in another unit.

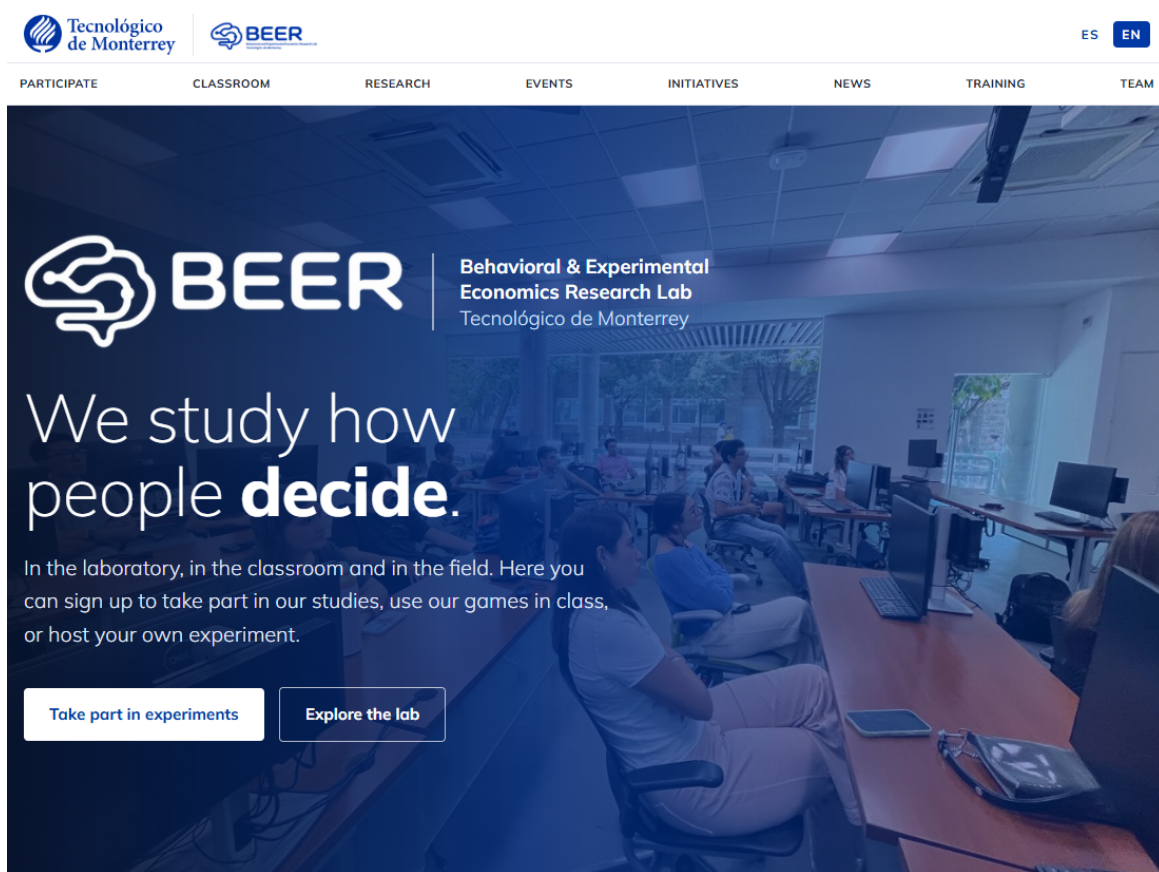


Figure 1.1: Current institutional navigation: select CLASSROOM to open classroom experiments.

Tecnológico de Monterrey | **BEER**

ES **EN**

PARTICIPATE CLASSROOM RESEARCH EVENTS INITIATIVES NEWS TRAINING TEAM

INSTRUCTORS AND STUDENTS

Classroom experiments

Experimental economics games for classroom activities and discussion. Open the game your instructor tells you.

Instructors: how to use these games in class or propose a new one → [instructor guide](#)
 Lab research: beer-lab.org/en/research

Search by title, topic, keyword or JEL code...

Topic ▼ JEL code ▼ 103 games

Electoral Accountability and Political Selection

Study how the prospect of remaining in office changes an officeholder's behavior and how information allows voters to choose between politicians with different types. Basic: One encounter or four encounters with fixed or reassigned groups. Extended: Eight treatments on continuation, information, types, office value, term limits, and audits.

Aggregate Demand and Aggregate Supply

Understand how spending choices aggregate into demand and how equilibrium with supply determines output and prices. Basic: One period, ten periods with the same economy, or ten periods with reassigned economies. Extended: Demand expansion and contraction, supply shock, fiscal stimulus, capacity, expectations, and coordination.

Figure 1.2: Current institutional navigation: search by title, topic, or JEL code and confirm language and edition.

oTree
Demo
Sessions
Rooms
Data
Server Check
Logout

Demo

Negociación penal y reconocimiento de responsabilidad · Básica · ES · Un caso
Negociación penal y reconocimiento de responsabilidad · Básica · ES · Diez casos · Participantes estables / orden fijo
Negociación penal y reconocimiento de responsabilidad · Básica · ES · Diez casos · Reasignación conservando roles
Plea Bargaining and Admissions of Responsibility · Basic · EN · One case
Plea Bargaining and Admissions of Responsibility · Basic · EN · Ten cases · Stable participants / fixed order
Plea Bargaining and Admissions of Responsibility · Basic · EN · Ten cases · Rematching with stable roles
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Acuerdo y prueba imperfecta
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Revelación de la señal
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Prueba de mayor precisión
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Menor costo del juicio

Negociación penal y reconocimiento de responsabilidad / Plea Bargaining and Admissions of Responsibility — BEER Lab

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

Figure 1.3: Demo lists this family's configurations. Confirm language, edition, and horizon before creating a session. (1/2)

Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Mayor deducción tras juicio	
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Inversión en defensa	
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Responsabilidad por errores	
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Revisión del resultado	
Negociación penal y reconocimiento de responsabilidad · Extendida · ES · Juicio sin acuerdo previo	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Agreement and imperfect evidence	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Signal disclosure	
Plea Bargaining and Admissions of Responsibility · Extended · EN · More accurate evidence	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Lower trial cost	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Higher deduction after trial	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Defense investment	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Accountability for errors	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Outcome review	
Plea Bargaining and Admissions of Responsibility · Extended · EN · Trial without prior agreement	

Figure 1.4: Demo lists this family's configurations. Confirm language, edition, and horizon before creating a session. (2/2)

oTree
Demo
Sessions
Rooms
Data
Server Check
Logout

Rooms

Current rooms:

Negociación penal y reconocimiento de responsabilidad · Básica · ES
Plea Bargaining and Admissions of Responsibility · Basic · EN
Negociación penal y reconocimiento de responsabilidad · Extendida · ES
Plea Bargaining and Admissions of Responsibility · Extended · EN

Figure 1.5: Four rooms distinguish language and edition; share only the room corresponding to the session.

oTree Demo Sessions Rooms Data Server Check Logout

Room: Plea Bargaining and Admissions of Responsibility · Basic · EN

Create a new session

Session Config

Plea Bargaining and Admissions of Responsibility · Basic · EN · One case

Number of participants

Complete groups of 2 participants. Use a multiple of 2; minimum 2.

Create

[Configure session](#) ⚙️

App sequence

plea_bargaining_game (10 rounds)

0 participants present

Start links

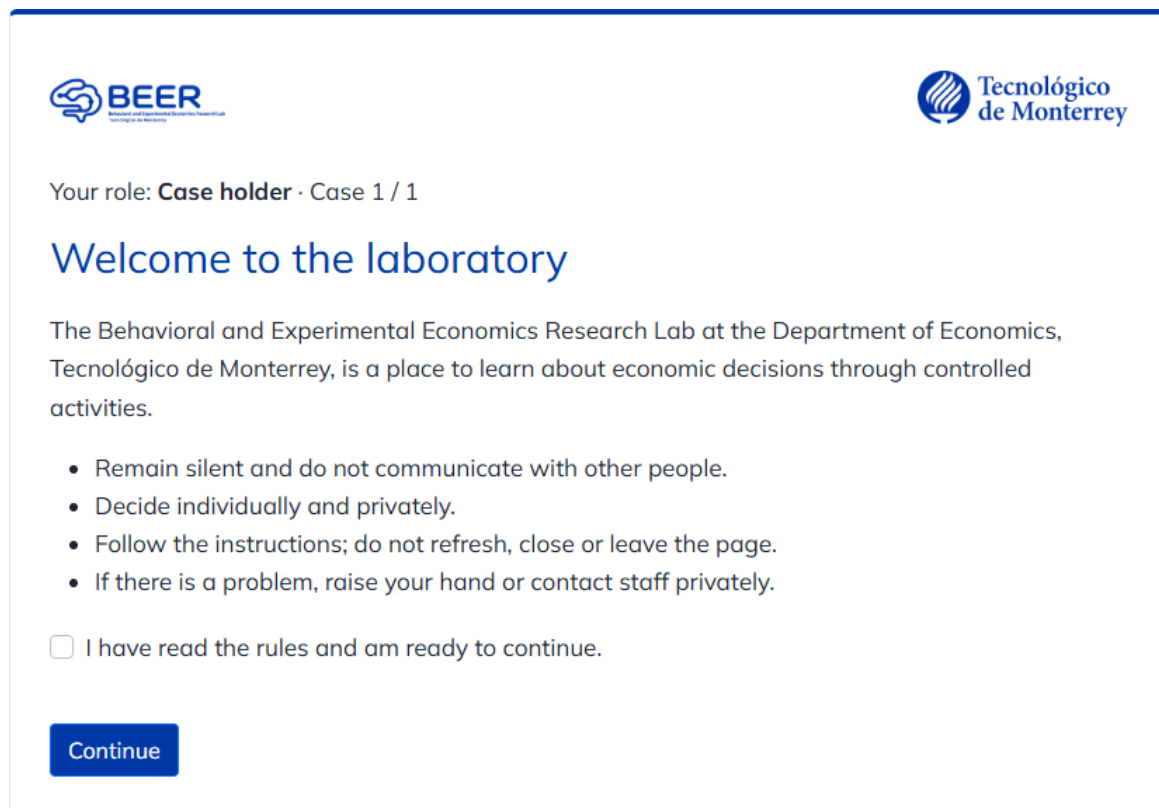
These URLs will stay constant for new sessions, even if the database is recreated.

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://127.0.0.1:8211/room/plea_bargaining_en

Figure 1.6: Instructor form: check participant count and configuration before creating.



 **BEER**
Behavioral and Experimental Economics Research Lab
Tecnológico de Monterrey

 **Tecnológico de Monterrey**

Your role: **Case holder** · Case 1 / 1

Welcome to the laboratory

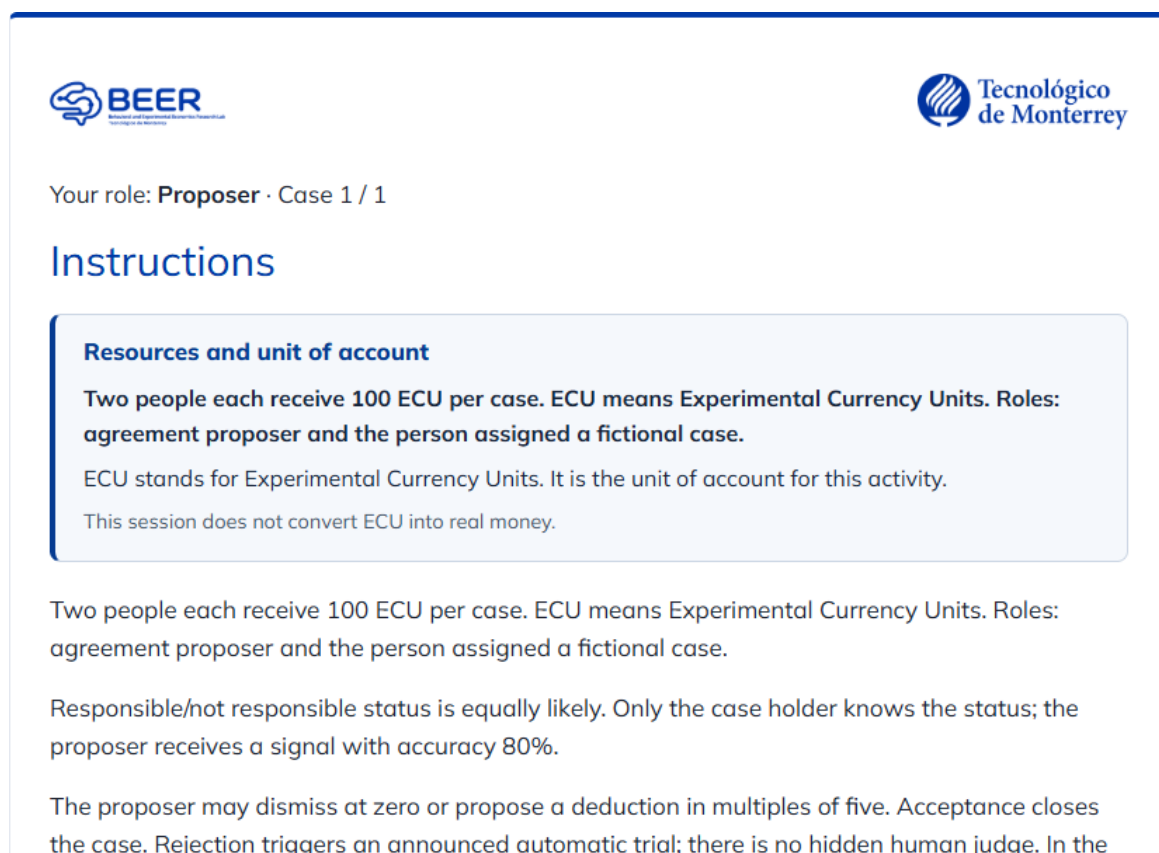
The Behavioral and Experimental Economics Research Lab at the Department of Economics, Tecnológico de Monterrey, is a place to learn about economic decisions through controlled activities.

- Remain silent and do not communicate with other people.
- Decide individually and privately.
- Follow the instructions; do not refresh, close or leave the page.
- If there is a problem, raise your hand or contact staff privately.

☐ I have read the rules and am ready to continue.

Continue

Figure 1.7: The welcome page introduces the laboratory and private-decision rules.



 **BEER**
Behavioral and Experimental Economics Research Lab
Tecnológico de Monterrey

 **Tecnológico de Monterrey**

Your role: **Proposer** · Case 1 / 1

Instructions

Resources and unit of account

Two people each receive 100 ECU per case. ECU means Experimental Currency Units. Roles: agreement proposer and the person assigned a fictional case.

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

This session does not convert ECU into real money.

Two people each receive 100 ECU per case. ECU means Experimental Currency Units. Roles: agreement proposer and the person assigned a fictional case.

Responsible/not responsible status is equally likely. Only the case holder knows the status; the proposer receives a signal with accuracy 80%.

The proposer may dismiss at zero or propose a deduction in multiples of five. Acceptance closes the case. Rejection triggers an announced automatic trial; there is no hidden human judge. In the

Figure 1.8: Actual instructions: identify resources, costs, and the session rule before starting. (1/2)

no-agreement condition every case goes to trial.

Trial costs 8 ECU to the case holder and 10 to the proposer. If the result finds responsibility, the deduction is 40 ECU.

The proposer receives an additional 20 ECU when the case ends in responsibility by agreement or trial. Deductions enter an external account. Costs are consumed resources.

Additional options for this condition appear on each screen. Final review, when available and requested, establishes fictional status without error. Final results reveal status and payments. Points are not a real sentence.

Specific rule for this session

You may propose or accept an agreement; trial accuracy is 80%.

Number of cases: 1 · Stable participants / fixed order

Each case begins with the described resources. Final payment sums all active cases.

Continue

Figure 1.9: Actual instructions: identify resources, costs, and the session rule before starting. (2/2)




Your role: **Proposer** · Case 1 / 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.

What is the individual reference balance before claims, losses or decisions?

101

Your answer: 101. The correct answer is 100. The reference balance before losses, claims or decisions is 100 ECU. Adjustments are explained separately.

How many cases are included in this session?

Figure 1.10: An incorrect answer receives an explanation. Address understanding before interpreting choices. (1/2)

The screenshot shows a quiz interface with two questions. Each question has a text input field for the answer, a feedback message in a red box, and a 'Continue' button at the bottom.

Question 1:

Input: 2

Feedback: Your answer: 2. The correct answer is 1. This session contains 1 case(s); this is not group size.

Question 2:

What does ECU mean?

Input: An academic grade

Feedback: Your answer: An academic grade. The correct answer is Experimental Currency Units. ECU means Experimental Currency Units. No conversion to real money is announced.

Question 3:

Rejecting a positive agreement activates automatic trial.

Input: False

Feedback: Your answer: False. The correct answer is True. Trial has costs and imperfect evidence; rejection does not dismiss the case.

Continue

Figure 1.11: An incorrect answer receives an explanation. Address understanding before interpreting choices. (2/2)

Plea bargaining: information, offers, and outcomes

2.1 What this activity teaches

A person may accept an unfavorable consequence to avoid a costly and uncertain procedure. Acceptance does not automatically reveal the factual status of the case. This activity turns that idea into a transparent sequence of offers, responses, and automatic adjudication. Its objective is to distinguish the private attractiveness of an agreement, the accuracy of its outcome, and the resources used to obtain it. A high settlement rate can coexist with few trials and findings of responsibility that do not match the assigned fictional status.

There are two positions: proposer and case holder. The proposer observes an imperfect signal and proposes a deduction; the case holder knows the fictional state and decides whether to accept. An announced automatic trial replaces a third player. Automation keeps the evidentiary rule constant and makes uncertainty depend on a known probability. No student is accused of actual misconduct. Status is assigned by chance to an imaginary file and does not imply violating laboratory instructions.

The activity complements discussion of negotiated procedures by introducing a factual state against which errors can be observed. A generic civil negotiation can examine distribution of a surplus without such a benchmark. Here the particular interest is how rejection costs and evidence quality change choices by people assigned different cases. The purpose is not to teach the criminal procedure of one jurisdiction or equate a points deduction with the seriousness of an actual sentence.

2.2 Basic sequence and accounting

Both positions begin every case with 100 ECU. Responsible and nonresponsible states are equally likely. The proposer receives a signal matching that state with 80 percent probability. The case holder knows the state but ordinarily does not know the other position's signal. Signal and trial outcomes are separate draws conditional on the same state. An incorrect signal does not force the trial to make the same mistake.

The proposer selects a deduction between zero and 40 in increments of five. Zero dismisses the case: there is neither a positive agreement nor trial. A positive offer can be accepted or rejected. Acceptance establishes responsibility within the fiction and deducts the proposed amount. Rejection triggers a trial costing the case holder 8 ECU and the proposer 10. A trial finding of responsibility deducts another 40; the alternative finding imposes no such deduction.

The proposer earns a bonus of 20 when the final outcome finds responsibility, whether by agreement or trial. The proposer does not receive the counterpart's deduction. This distinction is essential: the institutional incentive modeled rewards a procedural outcome, not revenue collection. Deductions enter an external account, while costs consume resources. Consequently, combined participant payments need not remain at 200, and this is not a constant-sum game.

If an offer of 15 is accepted, payoffs are 120 and 85. The first equals 100 plus the bonus; the second equals 100 minus 15. Their sum is 205. Adding the external deduction of 15 yields 220, exactly the initial 200 plus the bonus of 20. No trial costs are incurred. This example distinguishes an outflow from the participant group from an additional institutional payment.

If the offer is rejected and trial finds responsibility, the proposer receives 100 minus 10 plus 20, or 110. The case holder receives 100 minus 8 minus 40, or 52. Payments total 162. Costs total 18 and the external deduction is 40: adding them yields 220 again. If trial does not find responsibility, payments are 90 and 92, with no bonus or deduction; payments plus costs then total 200.

Theoretical foundation

The expected cost of rejecting an offer equals trial cost plus the probability of an unfavorable outcome multiplied by its deduction. For a risk-neutral person concerned only with personal earnings, acceptance is weakly preferable when the offer does not exceed that expected cost. The calculation uses the case holder's known state, not the proposer's private signal.

2.3 Acceptance thresholds differ across states

Under the basic parameters, a responsible case faces an 0.80 probability of a responsibility finding at trial. Expected rejection cost is 8 plus 0.80 times 40, which equals 40 ECU. A nonresponsible case faces an error probability of 0.20: its expected cost is 8 plus 0.20 times 40, or 16. An offer of 15 can therefore be accepted in either state although only one is responsible within the fiction.

An offer of 20 produces a different reference prediction. The responsible case compares 20 with 40 and accepts; the nonresponsible case compares 20 with 16 and rejects. Rejection does not guarantee a favorable outcome. With probability 0.20, the case holder pays 48 in costs and deductions; with probability 0.80, only 8 is lost. The average across many realizations is 16, although no individual trial realization produces a total loss of 16.

Make the distinction between expected value and realized outcome explicit. A student who rejects 20 and subsequently loses 48 has not thereby disproved the calculation. The choice must be evaluated using information available before the draw. Likewise, receiving a favorable outcome does not establish that a strategy dominated its alternatives. Ask the class to reconstruct the outcome tree before assessing consistency with the monetary benchmark.

Risk aversion can broaden the range of acceptable agreements by making a small certain loss attractive relative to a larger uncertain loss. However, this activity does not elicit a utility function. Acceptance above expected rejection cost is compatible with risk aversion, but also with calculation errors, distrust, or concern about the process. A single acceptance does not identify a risk parameter. Distinguishing these explanations would require additional measurements or experimental variation.

2.4 The signal and the proposer's incentives

The signal is symmetrically accurate and prior state probabilities are equal. Under those assumptions, a responsibility signal implies a posterior responsibility probability of 0.80; the opposite

signal implies 0.20. Equality between accuracy and the posterior relies on symmetry and the one-half prior. In an environment with very unequal state frequencies, signal accuracy could not simply be treated as the probability that this particular case is responsible.

Suppose the proposer offers 15 and both states accept. The proposer receives 120 with certainty, regardless of the signal. If the offer is 40 and only responsible cases accept, a nonresponsible case goes to trial: expected bonus is 4 and cost is 10, yielding expected payoff 94. After a responsibility signal, that strategy produces 0.80 times 120 plus 0.20 times 94, or 114.8. Offering 15 produces a higher expected payoff under these response assumptions.

This design provides no extra reward for demanding a larger deduction within an accepted agreement. Several small offers can produce the same proposer payoff. Predicting the highest feasible offer as if the proposer were extracting a transfer would therefore be incorrect. The model studies an incentive to close cases with responsibility findings, including the possibility of encompassing nonresponsible files. This is a deliberate teaching adaptation, not a comprehensive description of prosecutorial objectives.

The record retains fictional state, signal, offer, defense investment, acceptance, trial, and review. Instructors can reconstruct what each position knew when acting. Do not treat the truth disclosed at closure as public information from the beginning. Doing so removes the information problem the activity is designed to teach and turns choices made under uncertainty into apparently obvious mistakes judged retrospectively.

Extensions of plea bargaining

3.1 Signal disclosure

This condition tells the case holder which signal the proposer received. It changes neither direct knowledge of the state nor trial accuracy. Under the simple monetary benchmark, acceptance still depends on the holder's state and rejection cost; disclosure therefore does not mechanically change the threshold. It may change interpretation of the offer or expectations about the counterpart's behavior.

Compare offer distributions and acceptance within each factual state. An aggregate difference can reflect accidental variation in state composition, so separate responsible and nonresponsible cases. During feedback, ask which uncertainty disappeared and which remained. This is a teaching comparison concerning informational transparency. Do not assign it a literature-based effect size without a study evaluating precisely the same intervention.

3.2 More accurate evidence

Signal and trial accuracy rise from 80 to 95 percent. With trial cost 8 and deduction 40, the responsible case's threshold rises to 46 while the nonresponsible threshold falls to 10. Since offers reach only 40, every available offer remains monetarily acceptable for a responsible case. Under risk neutrality, a nonresponsible case accepts offers of 10 or less.

Greater accuracy separates expected costs across states more sharply, yet does not eliminate every agreement involving a nonresponsible case. An offer of 5 still avoids a trial with expected cost 10. Examine errors, agreements, and trial frequency jointly. Ask why an accurate system can still induce incorrect admissions when rejection has a positive procedural cost. Accuracy of adjudication and accuracy of negotiated outcomes are related but distinct properties.

3.3 Lower trial costs

The case holder's cost falls from 8 to 2; the proposer's cost remains 10. Acceptance thresholds become 34 for responsible cases and 10 for nonresponsible cases. An offer of 15, acceptable in both states under the basic parameters, is no longer monetarily attractive for a nonresponsible holder. Lower costs can increase rejection without implying greater hostility between participants.

Compare identical offers before interpreting aggregate acceptance rates. Proposers may respond with smaller offers, leaving agreement frequency nearly unchanged while improving agreement terms for their counterparts. A reform that makes trial cheaper should not be evaluated only

by the number of cases reaching trial. The report connects procedure, deduction, and payoffs, although a causal comparison still requires a defensible assignment of conditions.

3.4 Higher deduction after trial

The unfavorable trial deduction rises from 40 to 60, and available offers also expand in increments of five. Thresholds become 56 for responsible cases and 20 for nonresponsible cases. Increasing the consequence of an unfavorable trial can broaden acceptable agreements in both states. The mechanism does not require a nonresponsible person to believe they committed misconduct; a positive error probability is sufficient.

Do not confuse this model prediction with a universal empirical result. Edkins and Dervan did not find a severity effect in their reported comparison. That contrast illustrates how predictions depend on context, incentives, and measurement. In this activity, compare the same positive offer where possible and distinguish changed thresholds from the expanded set of offers available to the proposer.

3.5 Investment in defense

Before learning the offer, the case holder may pay 5 ECU to make trial accuracy 95 percent. Defense investment occurs simultaneously with the offer; the proposer cannot observe that choice before proposing. The cost is paid even if the case is dismissed or settled. This sequence distinguishes preventive investment from review purchased only after an unfavorable outcome becomes observable.

If trial were certain, a nonresponsible case would reduce its expected deduction by 6 ECU, from 8 to 2, at a cost of 5. The expected net gain would be 1. Greater accuracy raises the likelihood of a deduction for a responsible case, so investment lacks that private benefit. When agreement is possible, the chance of avoiding trial reduces the value of investment. Compare investment by state and procedural path without treating it as evidence about actual innocence.

3.6 Accountability for errors

The proposer loses 40 ECU when the final outcome finds a nonresponsible file responsible. The penalty also applies to accepted agreements. Settlement therefore cannot be used to bypass accountability within the model. A positive agreement involving a nonresponsible case leaves the proposer with 80: initial 100 plus bonus 20 minus penalty 40.

When both states accept an offer, expected payoff after a responsibility signal is 0.80 times 120 plus 0.20 times 80, or 112. After the opposite signal it is 88, below the 100 available from dismissal. Thus the same offer can be preferable after one signal and unattractive after another. Examine dismissals, trials, and incorrect findings. Reducing incorrect responsibility findings does not automatically increase correct responsibility findings.

3.7 Review of the outcome

After trial finds responsibility, the case holder may pay 3 for review that establishes the fictional state without error. Review is unavailable after an accepted agreement or a favorable trial decision. If a nonresponsible case suffered the deduction of 40, review removes it at cost 3, improving payoff by 37. Trial costs already incurred are not reimbursed.

A responsible case obtains no correction and would pay an additional 3. This asymmetry gives a clear prediction under monetary self-interest. Review can also change the earlier incentive to reject offers because it changes expected trial cost. The report records reviews and corrections. Their relationship describes use of the review resource, while final error counts describe the corrected outcome. Initial and final errors must not be combined into one undefined statistic.

3.8 Trial without a prior agreement

Every case proceeds directly to trial. Offer and acceptance stages disappear, while signal, factual state, costs, and accuracy remain. This provides a comparison for the procedural savings generated by agreements. It is not a description of an actual legal system without informal bargaining; it is an explicit rule eliminating one stage of this model.

With equal state frequencies and symmetric accuracy, the aggregate probability of responsibility is one half. The proposer's expected payoff is 100 minus 10 plus 10, or 100. The case holder's is 100 minus 8 minus 20, or 72. Compare these expected values with realizations and with the basic condition. Saving procedural resources can raise payments without ensuring more accurate responsibility findings.

Evidence, indicators, and exercises

4.1 Evidence and the teaching adaptation

Edkins and Dervan's Pleading Innocents: Laboratory Evidence of Plea Bargaining's Innocence Problem, published in *Current Research in Social Psychology* in 2013, examined agreement acceptance following an academic-conduct situation. Acceptance was higher among participants who had committed the offense, but also occurred among innocent participants; the anticipated severity effect was absent. This motivates distinguishing acceptance from factual status. It does not validate this activity's parameters or every extension.

The adaptation uses only fictional files with randomly assigned states, ECU payments, and announced rules. It neither reproduces real accusations nor induces academic misconduct. Information, defense, cost, accountability, and review extensions are comparisons constructed within that transparent model. Their predictions follow from its accounting. Where no specific experimental estimate is supplied, describe a classroom hypothesis rather than an established empirical finding.

4.2 Interpret the report indicators

Mean accepted agreement is the fraction of completed cases ending with a positive accepted offer. Dismissal at zero is not acceptance. Mean trial identifies the fraction undergoing automatic adjudication. These fractions can sum to less than one because dismissal is possible. Deduction is the amount charged to the case holder before adding procedural costs; its average is not the position's entire loss.

Incorrect responsibility attribution equals one only when the final outcome finds a nonresponsible case responsible. Its average across all cases is a joint incidence, not the conditional probability among nonresponsible cases. The table by factual state reports responsibility findings within each state and displays its denominator. If no case has a given state, that rate cannot be estimated: the table shows a dash rather than zero percent.

Correction indicates whether review changed the initial outcome. A case without review does not prove that trial was accurate: there may have been no trial, a favorable finding, or a decision not to request review. Examine the procedural path before constructing denominators. Role payments show who bears costs and deductions; they are not a justice scale or a welfare measure for victims, taxpayers, or other parties absent from the model.

4.3 Exercise: reconstruct an agreement

An offer of 10 is accepted in a nonresponsible case. Calculate both payments and assess accuracy against fictional status. Under the basic rules, payoffs are 120 for the proposer and 90 for the case holder. No trial costs are consumed, and the external deduction is 10. Responsibility is incorrectly attributed even though acceptance is monetarily attractive relative to expected trial cost 16.

Repeat the calculation under accountability for errors. The case holder still receives 90, but the proposer receives 80. Total external deductions are now 50: agreement deduction 10 plus accountability penalty 40. Payments plus deductions again total 220. The intervention changes incentives to offer; it does not directly compensate the case holder for an incorrect finding. Distinguish deterrence of a decision from remediation of its consequences.

4.4 Exercise: trial followed by review

A nonresponsible case rejects 20, receives an unfavorable trial finding, and requests review. Before review its payment would be 52. After review it receives 89: trial cost 8 remains, review costs 3, and the deduction of 40 is removed. The proposer ends with 90 because trial cost 10 was incurred and the final outcome generates no bonus. Review corrects final status without recovering every resource consumed.

Before the draw, if the holder always reviews an unfavorable finding, expected cost is 8 plus 0.20 times 3, or 8.6. The offer of 10 that previously was acceptable ceases to be attractive under risk neutrality. A later safeguard can therefore alter earlier behavior. Comparing review rates alone is insufficient when agreements and the selection of cases reaching trial also change.

4.5 Exercise: denominators and institutional evaluation

Consider twenty cases, ten responsible and ten nonresponsible. Suppose eight responsible and three nonresponsible cases end with responsibility findings. Joint incidence of incorrect responsibility is three out of twenty, or 15 percent. The conditional rate among nonresponsible cases is three out of ten, or 30 percent. Among eleven responsibility findings, three are incorrect, approximately 27.3 percent. These figures answer different questions and none should be substituted for another without explanation.

Ask the class to propose an institutional assessment combining accuracy, costs, and distribution of consequences. A strong answer recognizes that fewer trials can save resources while increasing agreements involving nonresponsible files. It also recognizes that correcting errors uses resources and can alter initial incentives. The activity specifies no unique moral weighting of these dimensions. Its contribution is to make the accounting and evaluative criteria explicit.

4.6 An advanced comparison of selection into trial

Suppose one classroom condition sends mostly responsible cases to trial, while another sends mostly nonresponsible cases. Their aggregate conviction rates may differ even with identical adjudication accuracy. The difference is generated by selection, not a better evidence technology. To diagnose it, first compare the distribution of fictional states among all completed cases, then among trial cases, and finally compare trial outcomes within each state. Each step uses a different denominator.

Agreement can change the population reaching trial because acceptance thresholds differ by factual

state. If low offers attract both states, fewer files remain for adjudication. If intermediate offers attract only responsible cases, the remaining trial population can contain more nonresponsible cases. A low conviction rate at trial may then coexist with substantial responsibility findings through agreement. The report's final aggregate cannot be interpreted without the procedural path retained in the export.

This is also an exercise in designing a better comparison. Students can hold the distribution of offers fixed, randomly vary access to review, and state in advance whether their primary outcome is final error, procedural cost, or acceptance. They should explain why conditioning on trial after the intervention can select different groups. The classroom implementation provides a transparent setting for that reasoning; it does not by itself supply a research design with enough independent units for precise causal estimation.

4.7 Reference operating rules

The following record collects the effective basic-condition instructions. Use it to check that demonstration accounts match the worked examples. The preceding extensions explain condition-specific changes.

Two people each receive 100 ECU per case. ECU means Experimental Currency Units. Roles: agreement proposer and the person assigned a fictional case.

Responsible/not responsible status is equally likely. Only the case holder knows the status; the proposer receives a signal with accuracy 80%.

The proposer may dismiss at zero or propose a deduction in multiples of five. Acceptance closes the case. Rejection triggers an announced automatic trial; there is no hidden human judge. In the no-agreement condition every case goes to trial.

Trial costs 8 ECU to the case holder and 10 to the proposer. If the result finds responsibility, the deduction is 40 ECU.

The proposer receives an additional 20 ECU when the case ends in responsibility by agreement or trial. Deductions enter an external account. Costs are consumed resources.

Additional options for this condition appear on each screen. Final review, when available and requested, establishes fictional status without error. Final results reveal status and payments. Points are not a real sentence.



Your role: **Proposer** · Case 1 / 1

Case file and decision

Your initial balance renews for every case: 100 ECU.

The file signal is: responsible

Propose the agreement deduction. Zero dismisses the case.

Select an option

Continue

Figure 4.1: Decision for Proposer. Check the information and options available to this position.



Your role: **Case holder** · Case 1 / 1

Case file and decision

Your initial balance renews for every case: 100 ECU.

The fictional status assigned to your case is: responsible

The proposed deduction is 20 ECU.

Your decision

Select an option

Continue

Figure 4.2: Decision for Case holder. Check the information and options available to this position.

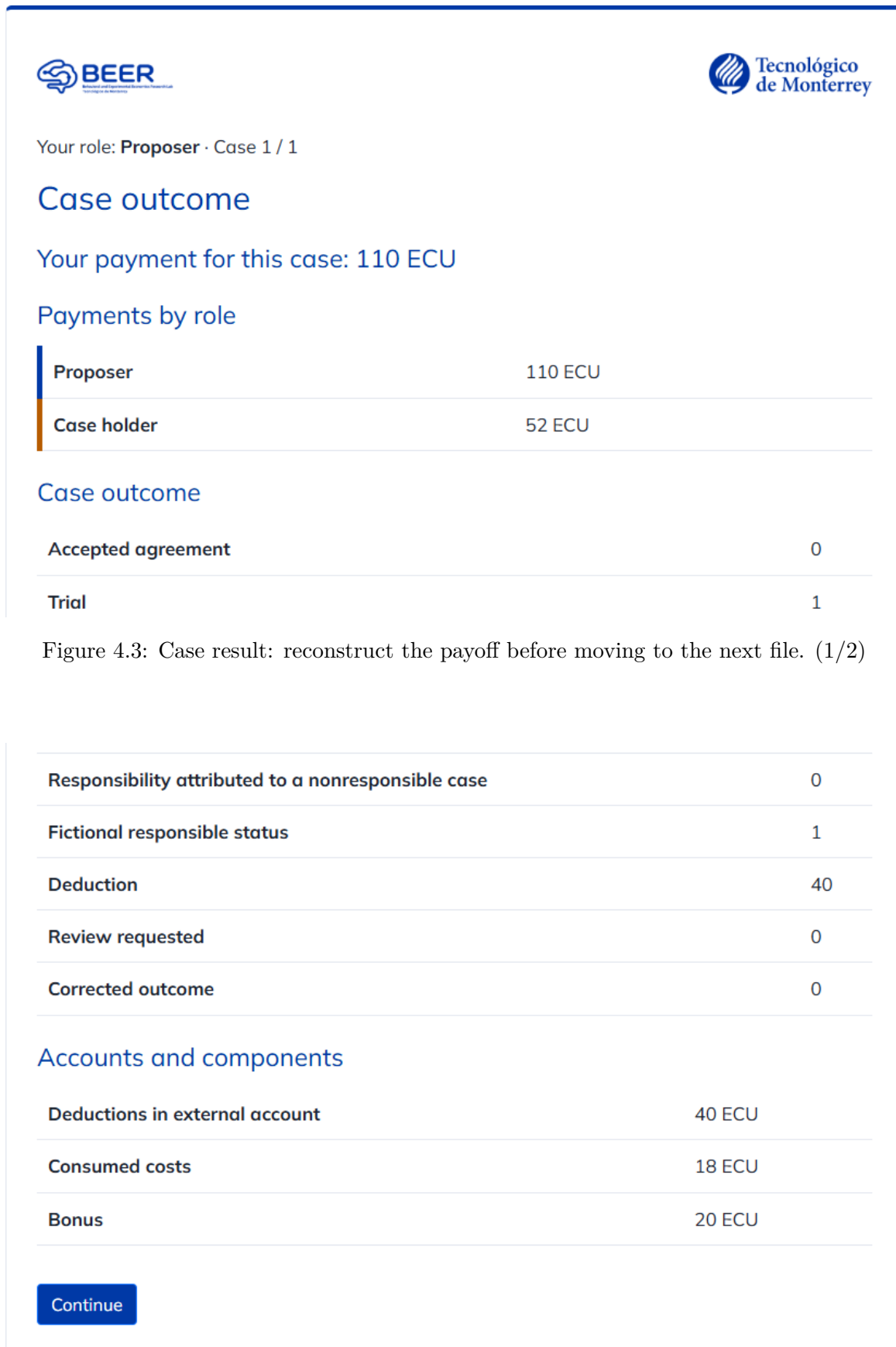


Figure 4.4: Case result: reconstruct the payoff before moving to the next file. (2/2)

Reading outcomes and designing discussion

5.1 Begin with the unit and denominator

Open the report for the session that was actually used. Before revealing results, check completed cases, the possible total, and pending cases. The report observation is one case of the experimental unit, not every individual row in the participant file. When several people share a group outcome, recording that outcome for each member does not create independent realizations. This distinction matters for percentages, graphs, and any subsequent analysis.

The report starts hidden. Reveal aggregates after the decisions you intend to compare are complete, and hide them again when reviewing administrative information. Hiding controls the instructor's projection; it does not replace private access to the panel. First ask for a literal description of what happened: number of units, frequency of an outcome, and dispersion. Introduce the economic explanation afterward. This order discourages students from selecting only observations that fit an announced prediction.

Means summarize outcomes but do not describe the entire distribution. Two groups can have the same average payoff and very different inequality. A histogram reveals concentrations, extremes, or absence of variation. Each bar reports the count and share of completed cases taking that value. If everyone chose the same option, the distribution is concentrated; the chart is not broken. With few cases, large differences between bars can arise from chance or one decision.

Role tables show the mean, median, and number of completed payments. The median is the middle ordered payoff; the mean is their sum divided by the number of observations. A large difference between the two is a reason to examine extremes before describing a typical participant. Colors identify positions in the activity, not types of people. Do not use a color or label to attribute moral dispositions to particular students.

Evolution by case shows changes during the session. A slope does not establish learning: it can also reflect different realizations, adaptation to counterparts, fatigue, or presentation order. Repeated observations with fixed groups share people and history. Under rematching, people continue accumulating experience even when group membership changes. To compare formats, retain period and configuration, and avoid treating every row as an independent observation.

Feedback script

First describe a number and its denominator. Then reconstruct a rule that could produce it. Finally propose an alternative explanation and a comparison that could distinguish the two. A convincing explanation connects information, choice, and outcome; naming a bias is insufficient.

5.2 Move from observation to a defensible claim

A reference prediction states what particular assumptions would produce. It may require knowledge of the rules, accurate calculation, exclusive concern for personal earnings, and a specified attitude toward risk. If behavior differs, do not immediately conclude that students are irrational. First check whether the prediction uses the actual parameters, whether decisions depended on private information, and whether several responses were compatible with the same criterion.

Separate three levels of claim. An observation summarizes the session: for example, a certain share selected an option. A compatible mechanism explains how incentives or information could produce that choice. A causal conclusion needs a comparison that attributes the change to a rule while excluding relevant alternatives. Classroom sessions often support the first two levels well. The third requires planning assignment, sample size, and incident handling before seeing outcomes.

Do not exclude a unit because it contradicts the theory. Record technical problems or documented departures from instructions and apply criteria established beforehand. Keep a table of excluded cases and reasons. An unexpected decision remains a valid observation when the person understood the task and acted within available options. Comprehension questions improve the activity but do not exhaustively measure understanding, attention, or effort.

5.3 A sixty-minute lesson

Use the first eight minutes to introduce the institutional question without announcing a desirable answer. Allow ten minutes for reading, questions, and comprehension. Reserve fifteen minutes for the basic activity; actual duration depends on its turns and the class's experience. Spend ten minutes reconstructing an outcome with the accounting rules, twelve contrasting an extension, and five on an individual closing response. If the sequence takes longer, reduce the number of conditions rather than the time needed to understand them.

In a ninety-minute lesson, you can run two comparable sessions and reserve twenty minutes for joint discussion. If the same people complete both, alternate condition order across groups when feasible. If that is impossible, explicitly state that the second condition occurs after learning the first. Do not call the difference a pure institutional effect. Repetition offers an opportunity to teach why order matters in an experiment.

A short assessment can request three products: a correct calculation, a prediction with assumptions, and a limitation of inference. Award credit for identifying a condition under which the prediction would change. Do not grade earnings or agreement with the instructor's opinion. For advanced work, request a small alternative design that changes one rule and specifies an outcome capable of distinguishing two explanations.

5.4 A workshop for reconstructing the export

Begin with a verifiable task: reconstruct one completed case from decisions without looking at the computed payment. In the custom export, locate session, participant, round, and group. Completion indicates whether an outcome exists; phase identifies the last transition reached. Choices are stored in fields numbered by stage. Their meaning depends on role and condition, so the same technical field does not necessarily represent the same question for everyone.

The state field retains a structured record of information, aggregate choices, payments, and accounts. These components trace the program's causal sequence: initial situation, action, institutional rule, and outcome. For spreadsheet analysis, convert components into columns while retaining the untouched original. Avoid text replacements that remove commas or minus signs without distinguishing values from structure. Conversion must preserve numbers, missing values, and position-specific payment lists.

Select a second unit with a different outcome and repeat the reconstruction. The contrast helps locate whether differences arise from choices, a random draw, or an institutional rule. In a programming exercise, a useful check independently verifies a resource identity. A test copying the same payment formula under a different name can reproduce the same mistake and is not an independent accounting check.

5.5 What synthetic data contribute

The analysis folder includes synthetic cases generated under each condition's rules. They support practice importing records, making tables, and verifying accounts. Preserve the synthetic-data label in every derived chart or file. Simulated choices do not represent a student population and are not calibrated to reproduce an empirical frequency. A condition generating more agreements or votes in this file is not an experimentally validated behavioral prediction.

Use synthetic data to examine operation: possible values, balanced accounts, fields changing across conditions, and observation structure. Use classroom data to describe behavior actually observed, subject to assignment and sample-size limitations. Keeping these sources separate prevents a software example from accidentally becoming evidence about human preferences. Students should be able to explain which parts of a synthetic outcome were generated by choices and which follow mechanically from the institution.

5.6 Plan a comparison before seeing results

Write a hypothesis identifying the reference condition, extension, primary outcome, and expected direction under explicit assumptions. Add a secondary outcome capable of revealing an intervention's cost. An institution can improve the metric it rewards while worsening one it ignores. Specifying both in advance makes discussion less dependent on whichever number looked most striking afterward.

Also record assignment. If one classroom group receives one condition and another group receives another, experience or understanding can vary alongside treatment. With random assignment, preserve the unit assigned and do not artificially multiply sample size through rounds or group members. With a before-and-after design using the same people, recognize learning and order as alternative explanations. These choices matter even when teaching is the main objective.

5.7 A short analysis deliverable

Request one page containing a question, a small table, a distribution plot, and an interpretation paragraph. The table should state the unit and number of complete cases; plots should preserve a common scale across conditions. Separate observed outcomes, a compatible mechanism, and a limitation in the paragraph. An excellent answer can find little difference and explain why the design or sample does not establish equivalence.

Keep a minimal implementation record containing configuration, language, horizon, participant count, and incidents. A screenshot of a plot without these rules is insufficient for reproduction. There is no need to present infrastructure or commands during feedback. The purpose is for students to explain how decisions become outcomes and which comparison supports each claim. Encourage them to report one observation that would weaken their preferred explanation, making the analysis open to disagreement rather than a search for confirmation.

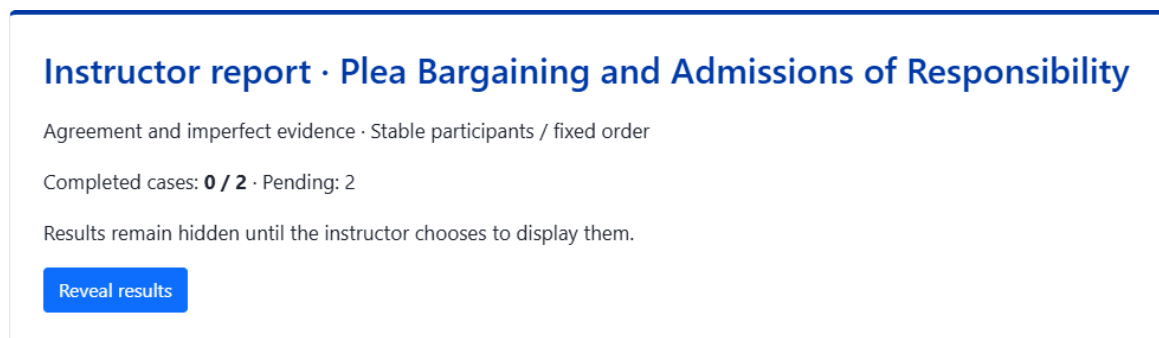


Figure 5.1: Monitoring view: unrevealed report and case count.

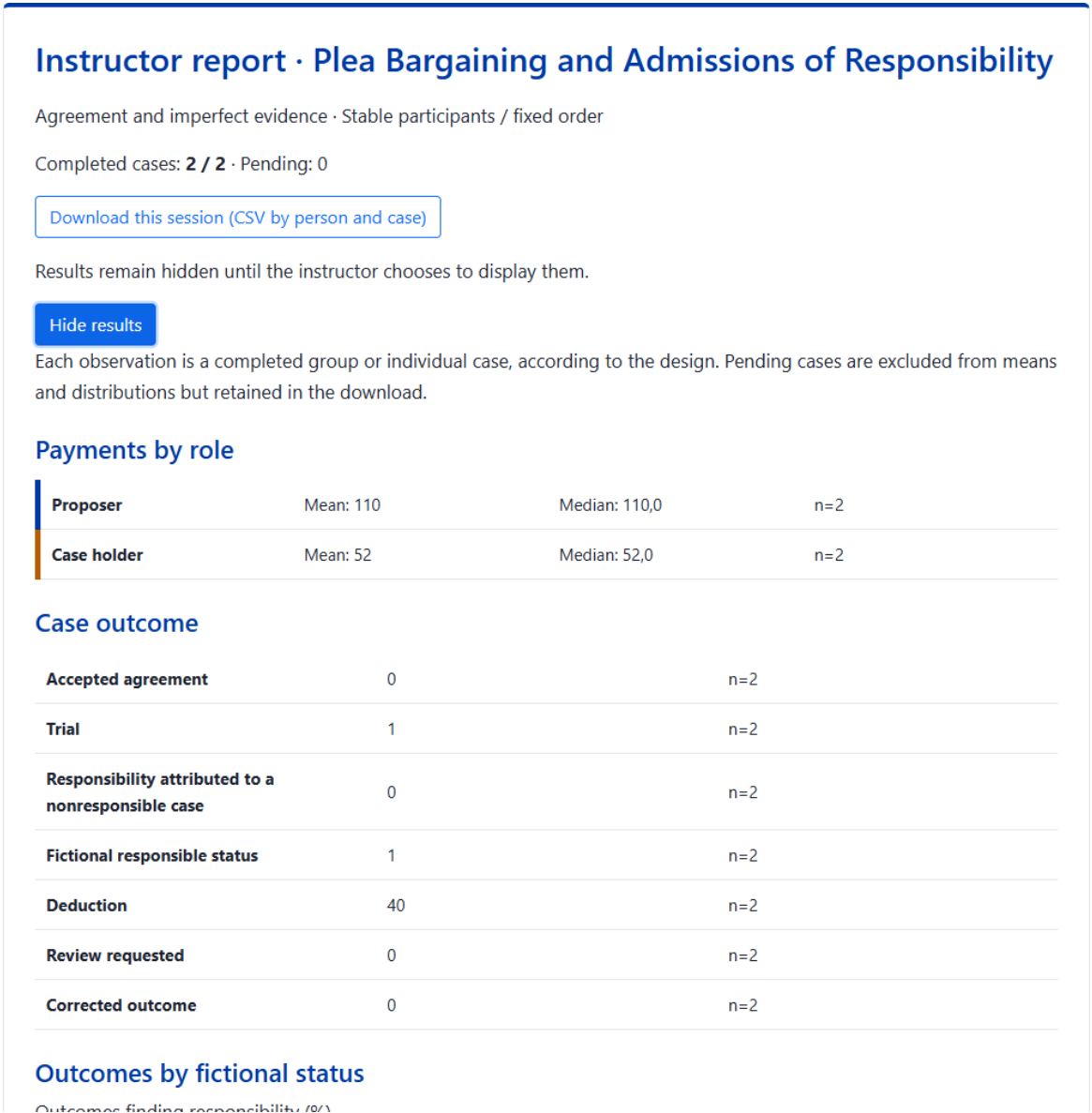


Figure 5.2: Monitoring view: revealed results; read every figure with its denominator.

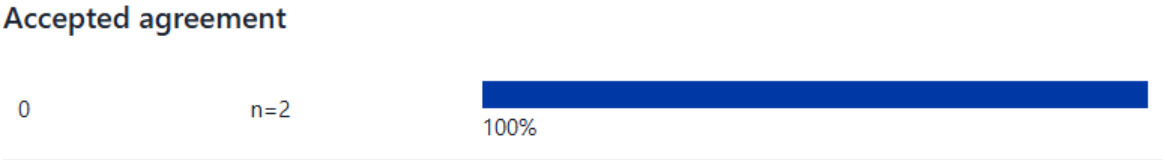


Figure 5.3: Monitoring view: the distribution shows concentration and dispersion.



Figure 5.4: Monitoring view: evolution separates cases and available observations.

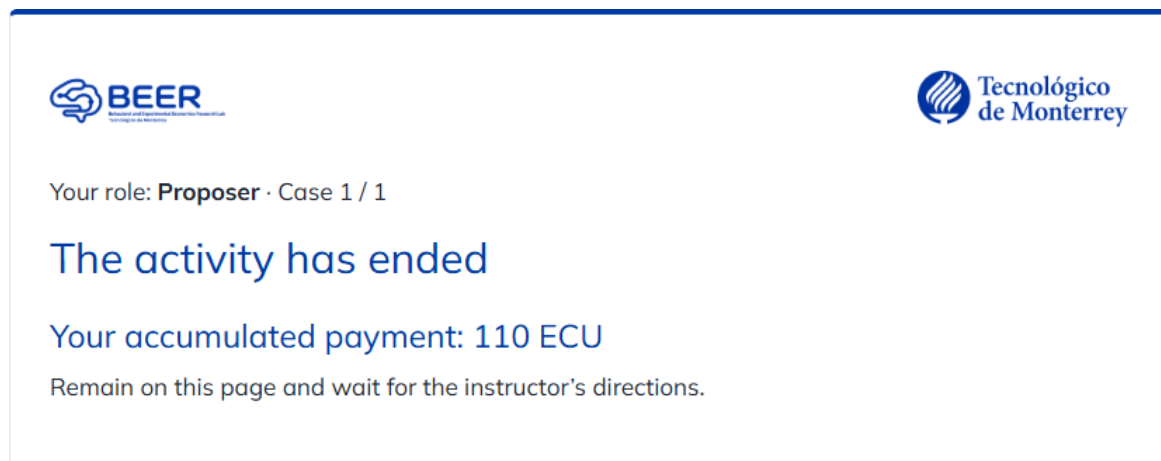


Figure 5.5: Monitoring view: closure confirms there are no further decisions for this person.

Data, retention, and incident recovery

6.1 Download the right session

From the session panel, open Data and use its own download link. The general oTree file is wide: one participant row contains columns for different rounds. This family's custom export is long and retains participant, round, group, role, language, edition, treatment, matching, phase, decisions, completion, payoff, and case state. Pending cases are retained. A blank field may indicate a decision that was unnecessary or has not yet been made; it must not automatically become zero.

Save the original file unchanged with the configuration and date. Use a copy to construct tables. Identify the session by its code and check that the last active round is present. Unused technical rounds do not belong to the experimental horizon. In a one-case version, the report must summarize that case even if the administrator opens the last technical period. Completed and pending counts provide a cross-check between the download and the visible session.

The private report also includes Download this session, which directly delivers the person-by-case CSV for the open session. This option requires no API-key configuration. It preserves all active rounds, including those still pending. The general Data download and this long download represent the same session in different layouts; their organization differs, not the active horizon that must be retained.

Collective outcomes repeat in members' state records. To construct a unit-level file, retain one observation per session, group, and round, or per participant and round for the individual activity. For payments by role, retain individual rows. Do not mix these levels in one average without specifying its weights. The analysis folder includes clearly marked synthetic data for practicing calculations. They are not evidence collected from students.

6.2 Protect interpretation and privacy

Do not collect names, student identification numbers, or demographic variables for this activity. Session and participant identifiers support operational tracking but should not be projected or published with results. Restrict access to the original file. When sharing a classroom table, remove individual codes and use aggregates that do not make a particular decision easy to recognize. A file's fictional status does not describe the real conduct, merit, or responsibility of the person assigned to it.

Classroom data do not automatically constitute a research sample. Before using them in a study, separately define the protocol, consent, data management, and relevant authorizations. You can discuss limitations pedagogically without turning every class into a research procedure. This guide teaches how to read outcomes, recognize observational units, and formulate hypotheses. It does

not promise representative estimates for actual judges, creditors, or data users.

6.3 Recover a session without changing its rules

If someone is waiting, examine the other positions in that unit. Locate the pending slot and check whether its participant is reading, has not submitted, or lost connectivity. Do not decide for them. If two people opened the same individual link, stop interpreting that unit and record the incident. If faithful recovery is impossible, retain partial data and create a new session for a later demonstration.

Correct a language error before choices begin. Do not informally translate for one participant while everyone else receives different instructions. If an incorrect configuration already produced decisions, identify those data separately. Restarting a server while preserving its database does not erase a session. Deleting or recreating the database invalidates previous individual links, requires a new session, and must never be used merely to refresh the interface.

Checkpoint

At closure, confirm that all planned cases are either complete or accompanied by a recorded incident, that the download belongs to the selected session, and that pending outcomes have not become zeros. Save the configuration alongside the data. Reproducibility begins with preserving the rules actually used.

Attention

Reveal the report after the decisions you wish to compare. Showing averages from other groups during play introduces social information. When that information is not part of the treatment, it changes the activity and must be recorded as an implementation incident.

6.4 Available rooms and conditions

Stable room: https://pleabargaining.beer-lab.org/room/acuerdo_penal_es

Stable room: https://pleabargaining.beer-lab.org/room/plea_bargaining_en

Stable room: https://pleabargaining.beer-lab.org/room/acuerdo_penal_extendido

Stable room: https://pleabargaining.beer-lab.org/room/plea_bargaining_extended

Agreement and imperfect evidence	You may propose or accept an agreement; trial accuracy is 80%.
Signal disclosure	Both parties know the signal received by the proposer.
More accurate evidence	The signal and trial have 95% accuracy.
Lower trial cost	Trial costs the case holder 2 ECU.
Higher deduction after trial	The deduction after a trial finding of responsibility is 60 ECU.
Defense investment	The case holder may pay 5 ECU before seeing the offer to raise trial accuracy to 95%.
Accountability for errors	The proposer loses 40 ECU when the final result finds a fictionally nonresponsible case responsible, including an accepted agreement.

Outcome review	After a trial finding of responsibility, review may be requested for 3 ECU. It establishes fictional status without error.
Trial without prior agreement	Every case proceeds directly to trial; no offer is permitted.

6.5 References and provenance

Edkins, Vanessa and Lucian E. Dervan (2013). Pleading Innocents: Laboratory Evidence of Plea Bargaining's Innocence Problem. *Current Research in Social Psychology*, 21, 14.

<https://repository.belmont.edu/lawfaculty/50/>

JEL classification verified with the American Economic Association: <https://www.aeaweb.org/econlit/jelCodes.php?view=jel>

Original BEER Lab teaching design. Additional predictions follow from the rules documented here. Sources and navigation checked in October 2026.