



Instructor Guide: Privacy, Consent, and Data Rights

Laboratory implementation, theoretical foundations,
experimental evidence, and variants

Behavioral and Experimental Economics Research Lab
Department of Economics



Revised edition | October 2026

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

How to use this guide

This guide supports the preparation, implementation, and classroom discussion of the privacy, consent, and data rights 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	Explore consent, information externalities, compensation, and collective control of fictional data.
Experimental unit	a group of 3 people per case
Participants	Multiples of 3; minimum 3.
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	privacy, consent, data rights
Payoff	ECU per case; sum of active cases. See role-specific accounts.
Topics	privacy; consent; data rights; information externalities; compensation
JEL	C92, D62, K24

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://datarights.beer-lab.org>. Participants enter through https://datarights.beer-lab.org/room/data_rights_en; instructors prepare sessions through <https://datarights.beer-lab.org/demo> or <https://datarights.beer-lab.org/rooms>. The preview verified on this computer is <http://localhost:8214/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 3 people per case. The roles are Person 1, Person 2, Person 3. Prepare 3 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.

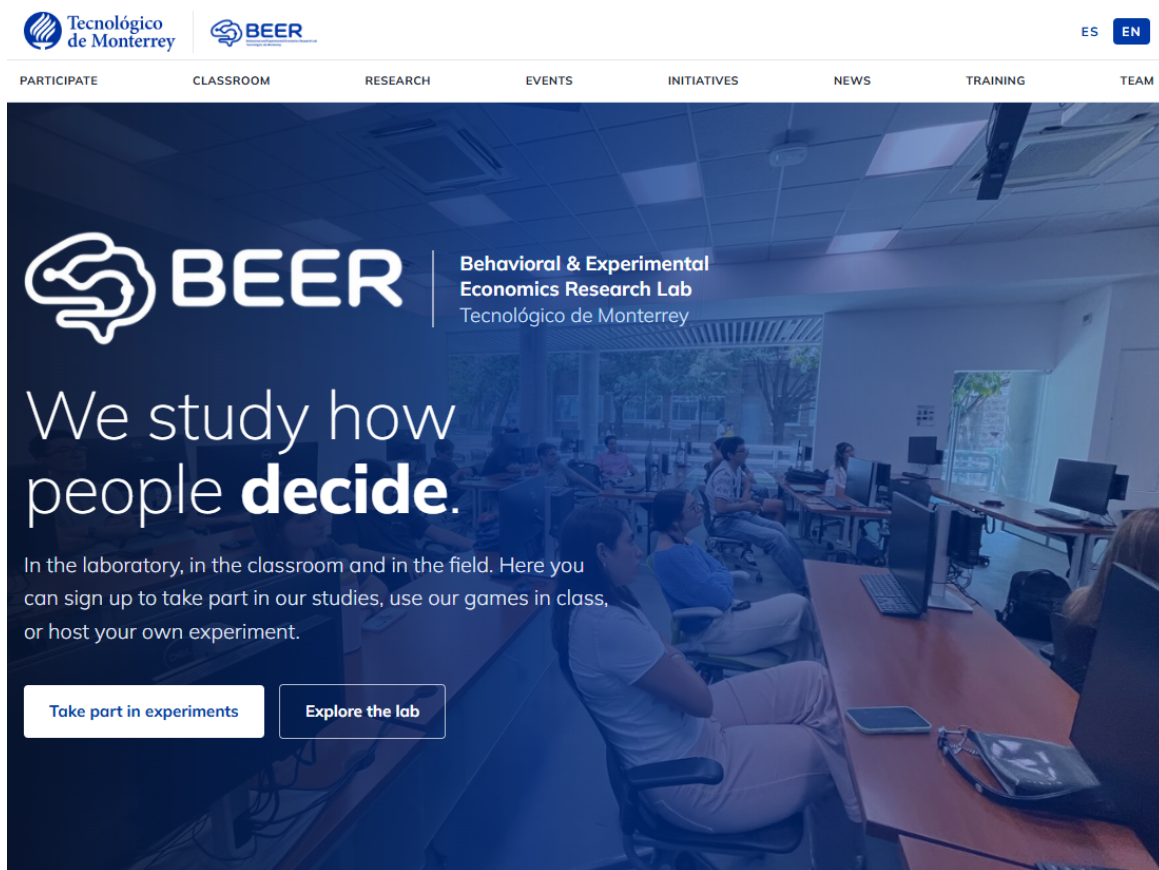
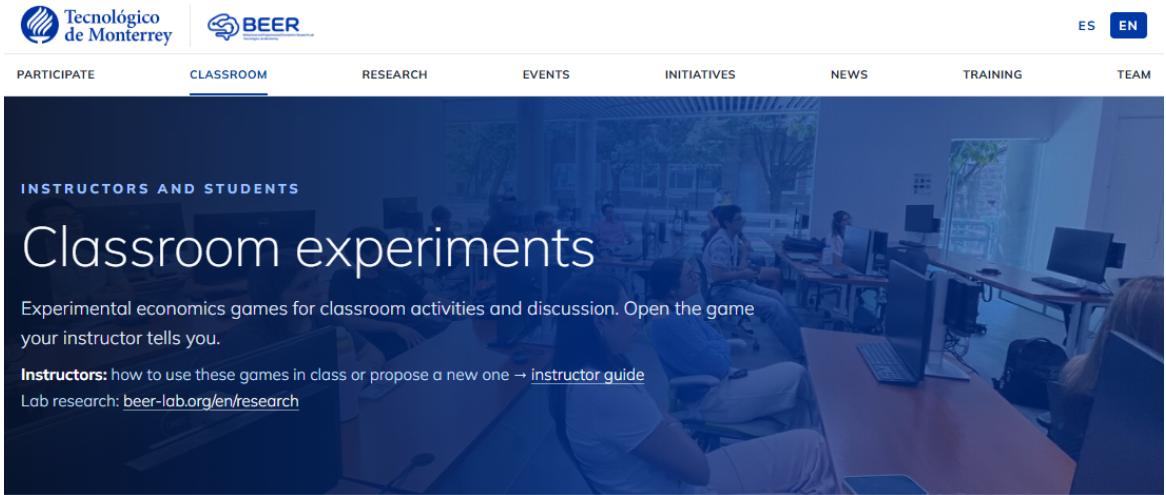


Figure 1.1: Current institutional navigation: select CLASSROOM to open classroom experiments.



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

DemoSessionsRoomsDataServer CheckLogout

Demo

Privacidad, consentimiento y derechos sobre los datos · Básica · ES · Un caso
Privacidad, consentimiento y derechos sobre los datos · Básica · ES · Diez casos · Participantes estables / orden fijo
Privacidad, consentimiento y derechos sobre los datos · Básica · ES · Diez casos · Reasignación conservando roles
Privacy, Consent, and Data Rights · Basic · EN · One case
Privacy, Consent, and Data Rights · Basic · EN · Ten cases · Stable participants / fixed order
Privacy, Consent, and Data Rights · Basic · EN · Ten cases · Rematching with stable roles
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Autorización individual
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Sin efecto sobre terceros
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Mayor efecto sobre terceros
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Menor remuneración

Privacidad, consentimiento y derechos sobre los datos / Privacy, Consent, and Data Rights — 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)

Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Compensación de afectados	
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Autorización por mayoría	
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Autorización unánime	
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Revocación posterior	
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES · Minimización del efecto externo	
Privacy, Consent, and Data Rights · Extended · EN · Individual authorization	
Privacy, Consent, and Data Rights · Extended · EN · Without effects on others	
Privacy, Consent, and Data Rights · Extended · EN · Larger effects on others	
Privacy, Consent, and Data Rights · Extended · EN · Lower payment	
Privacy, Consent, and Data Rights · Extended · EN · Compensation for affected people	
Privacy, Consent, and Data Rights · Extended · EN · Majority authorization	
Privacy, Consent, and Data Rights · Extended · EN · Unanimous authorization	
Privacy, Consent, and Data Rights · Extended · EN · Subsequent revocation	
Privacy, Consent, and Data Rights · Extended · EN · Minimizing external effects	

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:

Privacidad, consentimiento y derechos sobre los datos · Básica · ES
Privacy, Consent, and Data Rights · Basic · EN
Privacidad, consentimiento y derechos sobre los datos · Extendida · ES
Privacy, Consent, and Data Rights · 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: Privacy, Consent, and Data Rights · Basic · EN

Create a new session

Session Config

Privacy, Consent, and Data Rights · Basic · EN · One case

Number of participants

Complete groups of 3 participants. Use a multiple of 3; minimum 3.

Create

[Configure session](#) ⚙️

App sequence

data_rights_game (10 rounds)

0 participants present

Start links

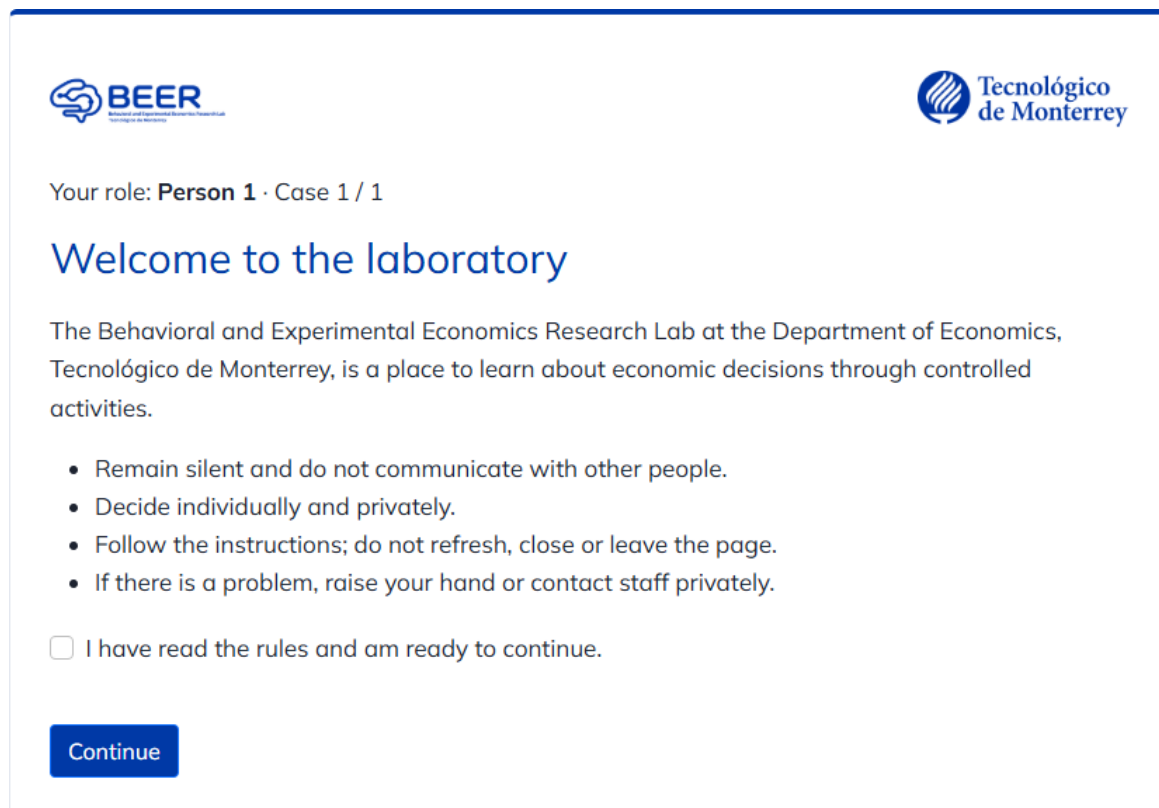
These URLs will stay constant for new sessions, even if the database is recreated.

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://127.0.0.1:8214/room/data_rights_en

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



Your role: **Person 1** · Case 1 / 1

Welcome to the laboratory

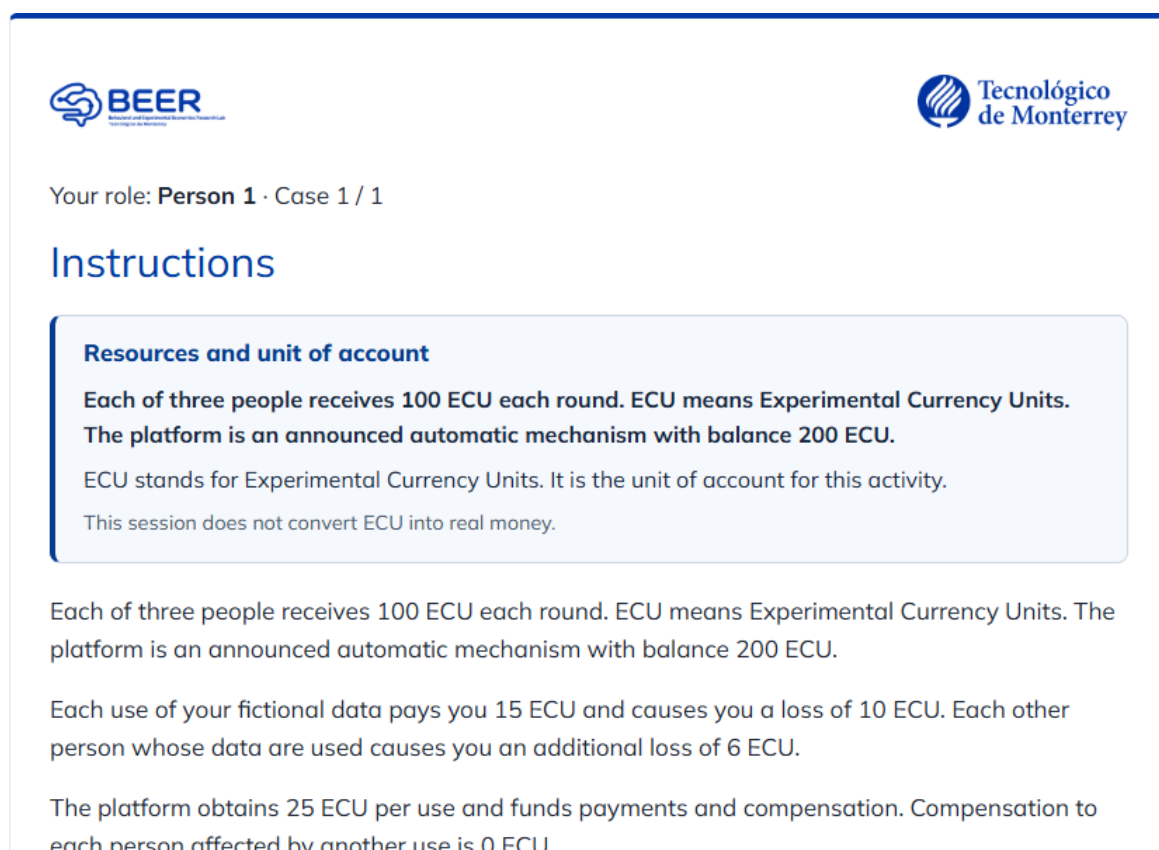
The Behavioral and Experimental Economics Research Lab at the Department of Economics, Tecnológico de Monterrey, is a place to learn about economic decisions through controlled activities.

- 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.



Your role: **Person 1** · Case 1 / 1

Instructions

Resources and unit of account

Each of three people receives 100 ECU each round. ECU means Experimental Currency Units.

The platform is an announced automatic mechanism with balance 200 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 of three people receives 100 ECU each round. ECU means Experimental Currency Units. The platform is an announced automatic mechanism with balance 200 ECU.

Each use of your fictional data pays you 15 ECU and causes you a loss of 10 ECU. Each other person whose data are used causes you an additional loss of 6 ECU.

The platform obtains 25 ECU per use and funds payments and compensation. Compensation to each person affected by another use is 0 ECU.

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

Under majority authorization, two votes enable all three data sets. Unanimity requires three votes. In other conditions each person controls only their authorization. The collective rule applies only to the fictional data in this activity.

When revocation is available, after learning the number of authorizations you can withdraw your use by paying 2 ECU. Your payment and the effects of your use are canceled; effects of other people's use remain.

Results show aggregate authorizations, payments and platform accounts. Every round starts anew. No real data are traded.

Specific rule for this session

Each person decides on their own information use.

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: **Person 1** · 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?

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)

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

What does ECU mean?

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

Other people's data use can affect your payoff even if you do not authorize your own use.

Your answer: False. The correct answer is True. Every other use applies the announced loss and compensation; a zero external loss makes that component zero.

Continue

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

Privacy and decisions affecting other people

2.1 Individual consent and shared consequences

Using information about one person can affect others. This game represents that externality through transparent payments and losses. Participants decide about fictional data; no personal information is requested and no actual data are traded. The objective is to distinguish authorization, effective use, remuneration, private cost, and external effects. These variables are easily confused when a transaction is evaluated solely through acceptance by the person receiving payment.

An interactive unit contains three people and an announced automatic platform. Each person starts with 100 ECU and the platform with 200. Participants authorize or refuse under the condition's rule. The platform is not another player bargaining over prices; it applies fixed payments and costs. This isolates the consent institution from price negotiation and competition among firms.

Under the basic condition, use of someone's fictional data pays them 15 and imposes an own cost of 10. Each use also imposes a loss of 6 on each of the other two people. The platform obtains 25 per use and finances payments. Authorization therefore produces a private net gain of 5 for the authorizing person but external losses totaling 12. Individual consent does not remove the difference between private and collective incidence.

2.2 Reconstruct payments with one, two, and three uses

If nobody authorizes, there are no uses: everyone retains 100 and the platform 200. If only person 1 authorizes, they receive 105. The others receive 94 each despite refusing their own use. Platform balance is 200 plus 25 minus 15, or 210. Participant payments total 293, and the total including the platform is 503. The complete starting system had 500; one use generated net surplus 3 under these parameters.

If two people authorize, each receives 100 plus 15 minus 10 minus 6, or 99. The third receives 100 minus 12, or 88. The platform ends with 220. Participants total 286 and the complete system 506. If all three authorize, each receives 100 plus 15 minus 10 minus 12, or 93. Platform balance is 230 and the complete total is 509.

Participants collectively lose 7 per use while the platform gains 10. Joint surplus rises by 3 per use. Declaring that data use necessarily destroys welfare because student payments fall would therefore be incorrect within this accounting. Using the platform-inclusive total to claim that everyone benefits would also be incorrect. Distribution of surplus and its aggregate size are separate questions.

Theoretical foundation

One use changes total participant payments by remuneration minus own cost minus two external losses, plus compensation paid to affected people. When the platform is included, payments and compensation are internal transfers: net surplus is generated value minus own and external costs. A transfer can change who benefits without changing total surplus.

2.3 Individual prediction and collective outcome

Under basic individual authorization, changing one's own answer from no to yes adds remuneration 15 and subtracts own loss 10. Effects from other people's use remain unchanged. The private marginal gain is always 5 regardless of the others' choices. With exclusive concern for personal earnings, authorization is strictly preferred. If everyone follows that criterion, each participant receives 93.

Everyone could receive 100 if nobody authorized. There is no contradiction once unilateral incentives are distinguished from the joint outcome. Someone deviating from no use gains 5 while imposing losses of 12 on others. Individually attractive decisions can therefore harm the group making them. However, the platform also belongs to the announced broader accounting and must be included when that wider welfare perspective is used.

Refusal does not automatically identify a privacy preference. It can reflect concern for others, opposition to the platform, misunderstanding, or the fictional framing. The design induces an ECU privacy cost; it does not estimate the value of actual personal data. Measuring willingness to accept payment would require price variation or threshold elicitation, and interpretation would still be limited to that environment.

Rights and externality variants

3.1 No external effect

The loss caused by each other person's use becomes zero. The private authorization incentive remains a gain of 5, but other people no longer lose. With three uses, each participant earns 105 and the platform 230. Total value is 545, exceeding initial 500 by 45: every use generates value 25 and consumes own cost 10.

This condition separates the cost of disclosing one's own information from harm to others. Changed authorization after eliminating externality is compatible with attention to others' consequences but does not identify a particular social preference. Keep remuneration constant and compare understanding as well. Absence of external loss in the model does not establish that an actual technology has no informational effects on other people.

3.2 Larger external effects

Each other use now costs 12 rather than 6. Authorizing still adds a private marginal gain of 5 while imposing 24 in external losses. With three uses, each participant finishes with 81 and the platform with 230. The total is 473: each use now destroys joint surplus of 9. The social effect changes sign without changing the direct private incentive.

The same individual contract can therefore be attractive in environments with opposite social consequences. Examine effective uses and payments, then calculate the external-loss threshold making marginal surplus zero. Value 25 minus own cost 10 leaves 15; two losses of 7.5 exhaust that amount. The implementation uses integer costs, but the theoretical threshold can be discussed using decimals.

3.3 Lower remuneration

The platform pays 8 for own use while own cost remains 10. The private marginal gain becomes negative: minus 2. Under individual authorization and monetary self-interest, refusal is strictly preferred. This changes the direct incentive, unlike higher external costs, which leave the private gain of 5 unchanged.

Compare responses to remuneration and externalities. If authorization falls in both, the compatible mechanisms differ. A price change affects the decision maker even without concern for others. Social surplus per use remains 3 under the remaining basic parameters because price is a transfer between platform and person. Lower remuneration redistributes surplus and can prevent an activity

that would benefit the complete system.

3.4 Compensation for affected people

The platform pays each person 4 for each other use. External loss remains 6; the technology does not eliminate it. With one use, the authorizer receives 105 and each third party 98 rather than 94. The platform gains 25 minus 15 minus 8, or 2. Total surplus still rises by 3 per use: compensation changes distribution, not material cost or generated value.

With three uses, each participant finishes with 101 and the platform with 206. Participants collectively gain 3 relative to their starting balances, although every other use still imposes a net cost of 2 on each affected person. Compensation below harm is not complete internalization. Ask what amount would eliminate the net third-party effect and how the platform budget would finance it.

3.5 Majority authorization

Two affirmative votes enable all three fictional data sets, including those of a person voting against. This is an explicitly hypothetical classroom institution, not a statement about the legal validity of majority consent. The comparison changes control rights. A vote no longer translates individually into using only the data of the voter who approved.

With basic parameters, collective approval leaves everyone with 93 compared with 100 if no data are enabled. A pivotal voter concerned only with personal earnings prefers blocking approval. This contrasts with the positive incentive to authorize individually. Under the collective rule, a pivotal vote changes all three uses simultaneously and brings their cross-effects into the private comparison. When a vote is not pivotal, several choices can be payoff-equivalent.

3.6 Unanimous authorization

All three votes are required to enable everyone's data. Two favorable votes produce no use. Each person can veto the collective package. Under basic values, a negative response can prevent a move from 100 to 93 when the others approve. The institution changes the alternative being evaluated: one individual use and a three-use package are different actions.

Compare votes and effective uses. Three yes votes create three uses; two yes votes create zero. Average initial authorizations therefore cannot substitute for average uses. Unanimity is not presented as a universal solution. Veto rules can block beneficial uses under other parameters and raise different questions about representation, rights, and decision costs.

3.7 Subsequent revocation

The initial stage retains individual authorization. After learning the number of authorizations, someone whose data are enabled may revoke at cost 2. Their remuneration, own loss, and external losses caused by their use are canceled; effects from others' use remain. Revocation occurs before effective use and does not promise to erase information already disseminated.

Under basic parameters, retaining authorization produces own gain 5 while revoking costs 2. Revocation lowers personal payment by 7 relative to retention but benefits each other person by

avoiding a loss of 6. Including the platform, withdrawing a use sacrifices surplus 3 and consumes revocation cost 2. Its evaluation depends on the population included and the criterion adopted.

3.8 Minimization of external effects

Each other use now imposes loss 2 rather than 6. Remuneration, own cost, and platform value remain unchanged. With three uses, every participant receives 101 and the platform 230. Joint surplus increases by 11 per use. The comparison represents a technology reducing informational cross-effects without changing authorization rights or payment.

Compensation and minimization can produce similar participant payments through very different accounts. Compensation redistributes platform resources; minimization reduces an actual model cost. Compare complete totals rather than individual balances alone. Privacy policy can improve outcomes through technology, rights, or transfers, and these channels should not be conflated.

Evidence, indicators, and exercises

4.1 Academic foundation and limits

Choi, Jeon, and Kim published Privacy and personal data collection with information externalities in *Journal of Public Economics*, volume 173, pages 113–124, in 2019. Their theoretical analysis examines data collection with informational externalities. The idea used here is that choices about one's own information can affect others and change the functioning of data markets.

This activity is an original teaching implementation with induced costs, three people, and an automatic platform. It does not replicate a published experiment or estimate actual privacy harm. Collective authorization, compensation, revocation, and minimization formalize comparisons inside the stated model. Predictions follow from announced rules. No validated empirical effect size is supplied for every intervention.

4.2 Read authorizations, uses, and accounts

Initial authorizations count affirmative responses before majority, unanimity, or revocation rules apply. Uses count fictional data sets effectively enabled at closure. Revocations count actual withdrawals, not available opportunities. Under individual authorization without revocation, authorizations and uses coincide; under other rules they can diverge. This difference is part of the mechanism, not inconsistent recording.

Information losses sum participant own, external, and revocation costs. Transfers sum platform-funded remuneration and compensation. Platform balance adds generated value and subtracts transfers. The platform-inclusive total adds three participant payments and that account. Do not add transfers again: they already appear with opposite signs for participants and platform.

4.3 Incidence exercise

Only person 2 authorizes under compensation. Payments are 98, 105, and 98; the platform ends with 202. Participants total 301 and the broad total is 503. Compare the basic outcome: 94, 105, and 94, with platform balance 210. The third parties' gain of 8 exactly matches the platform's reduction of 8, leaving total surplus unchanged.

A correct response identifies who funds compensation and which harm still occurs. Saying welfare increased because people receive more is insufficient. If the criterion excludes the platform, the relevant total rises; including it leaves total unchanged. Stating the accounting boundary is part of a rigorous discussion of incidence and welfare.

4.4 Collective authorization exercise

Votes are yes, yes, and no. Individual control produces two uses and payments 99, 99, and 88. Majority produces three uses and payments of 93 each. Unanimity produces no use and payments of 100 each. Identical votes generate different distributions because the institution determines the collective action to which they refer.

Ask why a person voting no can lose under individual authorization: refusal controls own use, not external consequences from other people. Then explain why their fictional data can be used under majority: that is precisely the announced control rule. This distinguishes protection against own use from protection against externalities without treating either as a statement about current legal rights.

4.5 Revocation and counterfactual exercise

All three initially authorize and the first revokes. Two uses remain. The first receives 100 minus 12 in external losses minus revocation cost 2, or 86. The others receive 99 each and the platform 220. Total is 504. With no revocation, total was 509: the difference of 5 combines surplus 3 from the removed use and revocation cost 2.

Also compare individual consequences: the revoker moves from 93 to 86 while each third party moves from 93 to 99. The choice is compatible with concern for others despite lowering broad surplus. An explanation must state whether it concerns private incentives, participant welfare, or platform-inclusive welfare. Switching criteria halfway through an argument creates misleading conclusions.

4.6 Advanced exercise: distinguish compensation from prevention

Compare full compensation of 6 per affected person with an external-cost reduction to zero. Both can remove net external harm to participant balances, but they need not produce the same platform balance or total surplus. Compensation leaves the induced information loss in place and finances a transfer. Prevention removes the loss itself. Students should write every account before asserting equivalence.

With basic own payment 15 and platform value 25, full compensation costs the platform an additional 12 per use. Its marginal balance change becomes minus 2. With prevention, it remains plus 10. Participant own gains can look similar while total surplus differs by 12. This counterfactual is a calculation exercise; the supplied compensation condition pays 4, so full compensation is not the configuration currently being run.

4.7 Advanced exercise: design a welfare comparison

Suppose a policy evaluator observes only authorization frequency and proposes ranking conditions from most to least authorization. Explain why that ranking is incomplete. The high-externality condition can generate privately attractive but socially harmful uses, while the lower-payment condition can discourage a use with positive broad surplus. Frequency must be combined with the value and cost parameters and with an explicit distributional criterion.

A more informative table reports uses, participant total, platform balance, and complete total for every condition. It separately records whether control is individual or collective. Students can

then explain trade-offs rather than compressing all objectives into one outcome. The game makes those trade-offs transparent; it does not decide how a real policy should weight rights, distribution, or unmodeled harms.

4.8 Closure: rights, technology, and transfers

Assign three teams different reforms: change authorization, reduce external harm, or compensate affected people. Each must explain which account changes, which decisions remain private, and what the report should show. A strong proposal distinguishes a rights change from a technological or redistributive intervention. The objective is to reconstruct mechanisms and identify evidence needed to evaluate them beyond the classroom.

4.9 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.

Each of three people receives 100 ECU each round. ECU means Experimental Currency Units. The platform is an announced automatic mechanism with balance 200 ECU.

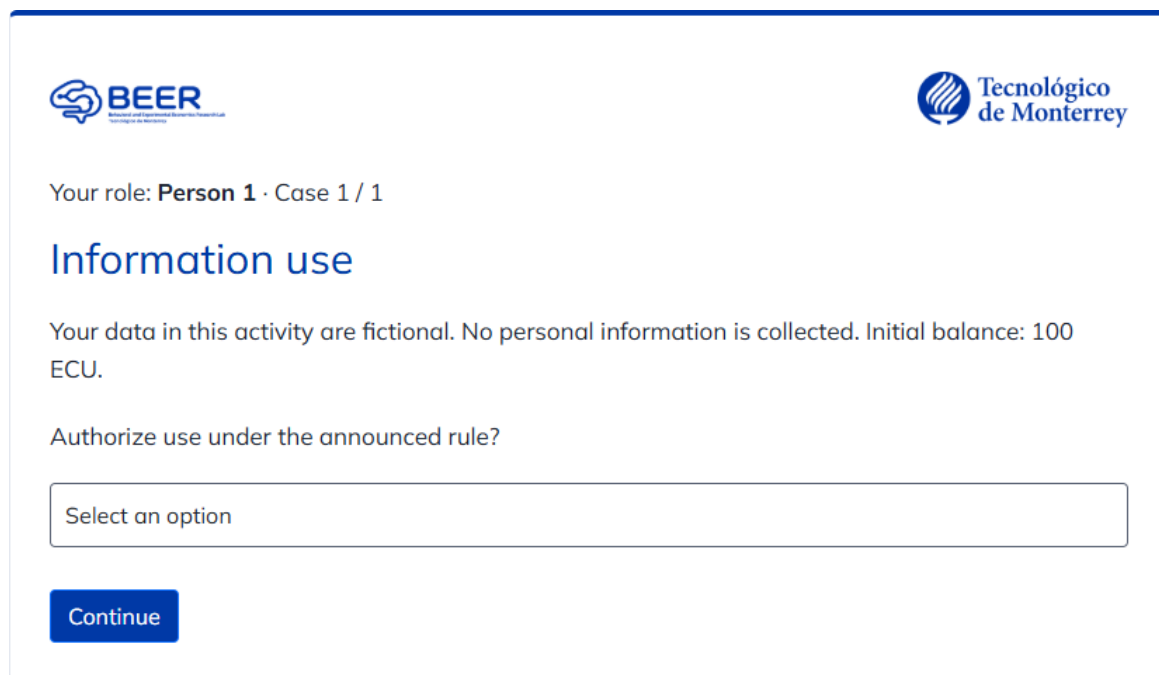
Each use of your fictional data pays you 15 ECU and causes you a loss of 10 ECU. Each other person whose data are used causes you an additional loss of 6 ECU.

The platform obtains 25 ECU per use and funds payments and compensation. Compensation to each person affected by another use is 0 ECU.

Under majority authorization, two votes enable all three data sets. Unanimity requires three votes. In other conditions each person controls only their authorization. The collective rule applies only to the fictional data in this activity.

When revocation is available, after learning the number of authorizations you can withdraw your use by paying 2 ECU. Your payment and the effects of your use are canceled; effects of other people's use remain.

Results show aggregate authorizations, payments and platform accounts. Every round starts anew. No real data are traded.



Your role: **Person 1** · Case 1 / 1

Information use

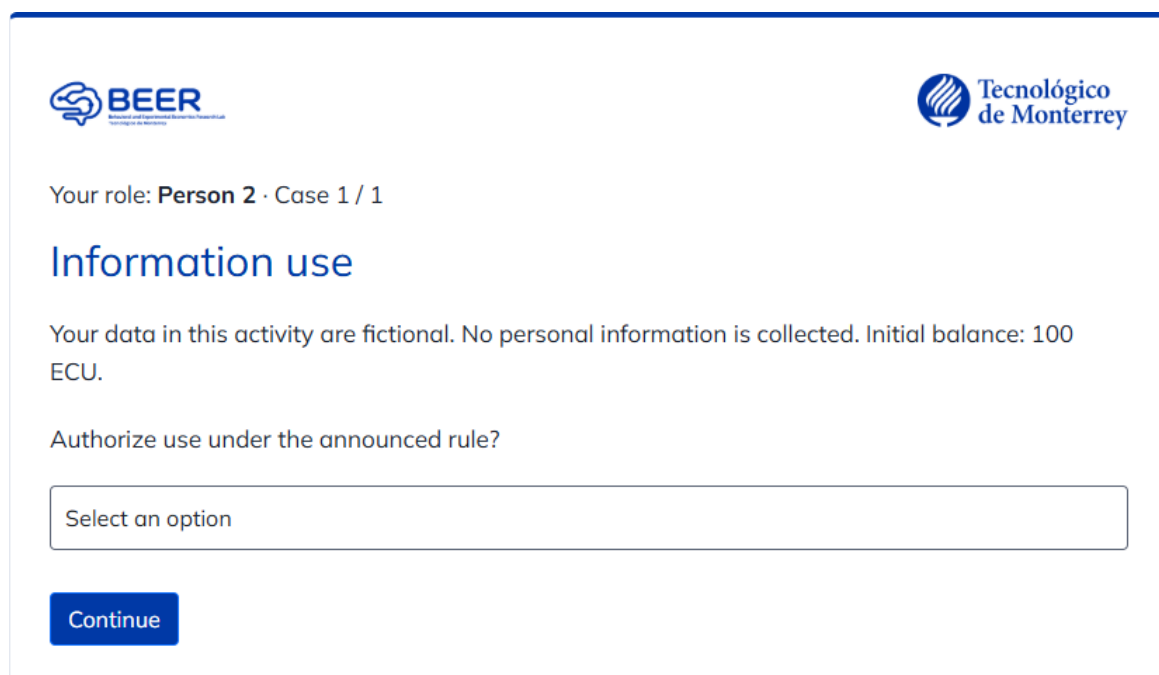
Your data in this activity are fictional. No personal information is collected. Initial balance: 100 ECU.

Authorize use under the announced rule?

Select an option

Continue

Figure 4.1: Decision for Person 1. Check the information and options available to this position.



Your role: **Person 2** · Case 1 / 1

Information use

Your data in this activity are fictional. No personal information is collected. Initial balance: 100 ECU.

Authorize use under the announced rule?

Select an option

Continue

Figure 4.2: Decision for Person 2. Check the information and options available to this position.




Your role: **Person 3** · Case 1 / 1

Information use

Your data in this activity are fictional. No personal information is collected. Initial balance: 100 ECU.

Authorize use under the announced rule?

Continue

Figure 4.3: Decision for Person 3. Check the information and options available to this position.




Your role: **Person 1** · Case 1 / 1

Case outcome

Your payment for this case: 93 ECU

Payments by role

Person 1	93 ECU
Person 2	93 ECU
Person 3	93 ECU

Case outcome

Information uses	3
Initial authorizations	3

Figure 4.4: Case result: reconstruct the payoff before moving to the next file. (1/2)

Revocations	0
Information losses and costs	66
Platform balance	230
Total including platform	509
Accounts and components	
Platform account	230 ECU
Transfers	45 ECU
Information losses and costs	66 ECU
Value generated by data	75 ECU
Initial platform balance	200 ECU
Continue	

Figure 4.5: 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.

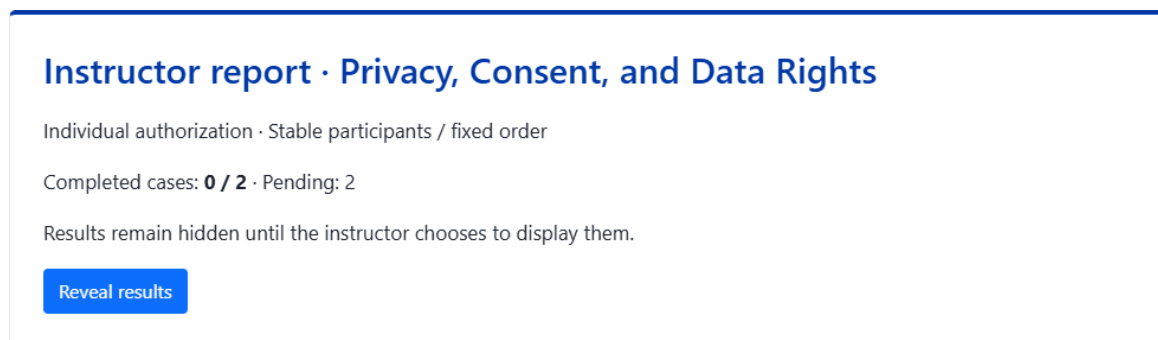


Figure 5.1: Monitoring view: unrevealed report and case count.

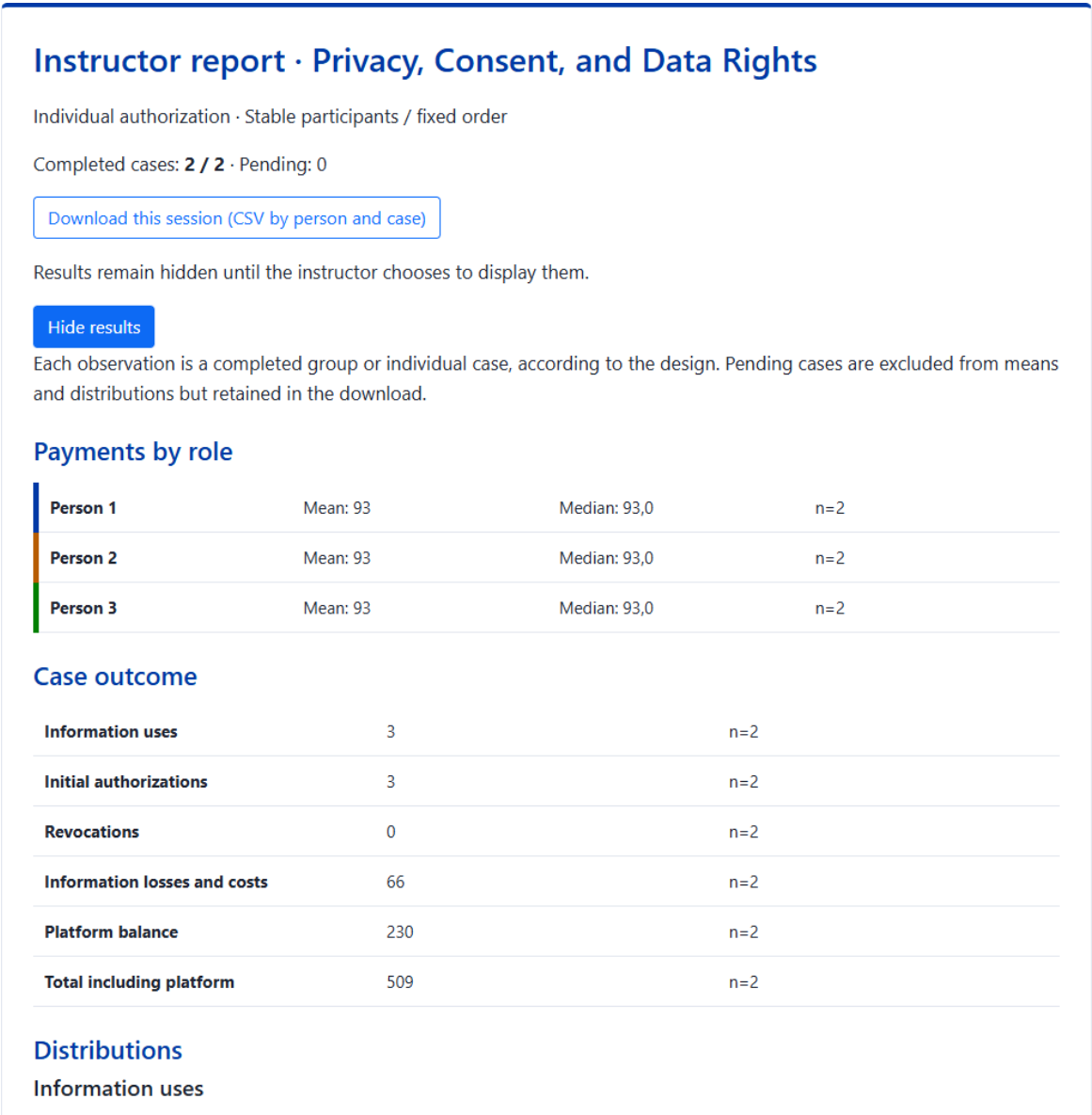


Figure 5.2: Monitoring view: revealed results; read every figure with its denominator.

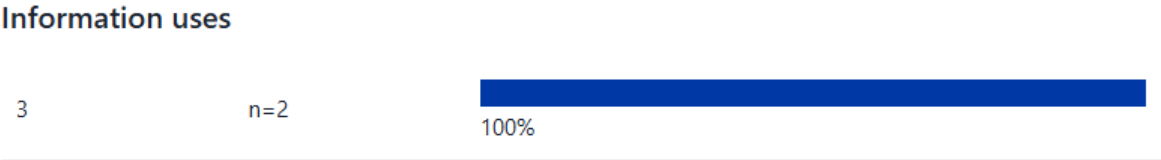
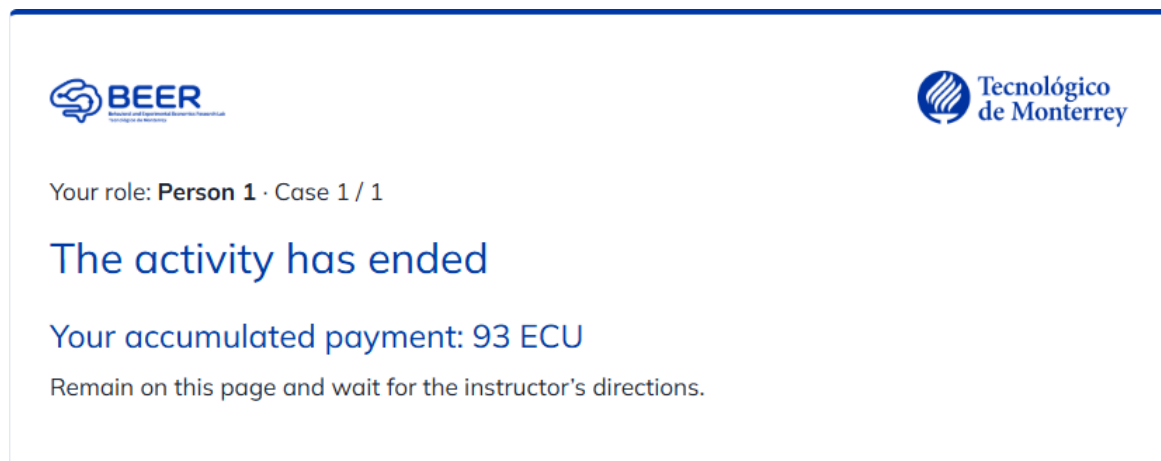


Figure 5.3: Monitoring view: the distribution shows concentration and dispersion.



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



The screenshot displays the BEER Lab interface. At the top left is the BEER logo, and at the top right is the logo of Tecnológico de Monterrey. Below the logos, the text reads: "Your role: **Person 1** · Case 1 / 1". The main heading is "The activity has ended" in a large blue font. Below this, it states "Your accumulated payment: 93 ECU". At the bottom, a instruction says "Remain on this page and wait for the instructor's directions."

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://datarights.beer-lab.org/room/datos_personales_es

Stable room: https://datarights.beer-lab.org/room/data_rights_en

Stable room: https://datarights.beer-lab.org/room/datos_personales_extendido

Stable room: https://datarights.beer-lab.org/room/data_rights_extended

Individual authorization	Each person decides on their own information use.
Without effects on others	Another person's data use causes you no loss.
Larger effects on others	Each other person's use causes you a loss of 12 ECU.
Lower payment	Payment for your own use is 8 ECU.
Compensation for affected people	The platform pays each person 4 ECU for each other person's use.
Majority authorization	Two votes enable use of all three people's fictional data.
Unanimous authorization	Only three votes enable use of everyone's fictional data.
Subsequent revocation	You may revoke your authorization before effective use by paying 2 ECU.
Minimizing external effects	Each other person's use causes you a loss of 2 ECU.

6.5 References and provenance

Choi, Jay Pil; Doh-Shin Jeon; Byung-Cheol Kim (2019). Privacy and personal data collection with information externalities. *Journal of Public Economics*, 173, 113–124. DOI: 10.1016/j.jpubeco.2019.02.001.

<https://doi.org/10.1016/j.jpubeco.2019.02.001>

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.