



Instructor guide to the moonlighting game

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 helps instructors prepare, run, and discuss the BEER Lab moonlighting-game family in the Department of Economics at Tecnológico de Monterrey.

It is intended for instructors with or without prior experience in experimental economics. Common rules, access, and report interpretation appear once; each variant then describes only what changes.

The production URLs are proposed for publication by the laboratory. The verified local instance is identified separately.

Author

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For the instructor

This is the English-interface guide for both basic and extended versions. A separate Spanish guide is available. Project only aggregate results; the screenshots come from test sessions, not identifiable students.

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At a glance

Purpose	Compare positive reciprocity, costly punishment, intentions, and initial inequality.
Participants	An even number; A and B are paired anonymously. Four suffice for a local test.
Basic edition	One interaction or ten rounds with fixed or reassigned partners. A and B each start with 12 ECU.
Extended edition	Five one-shot treatments: agreement, random action, contingent responses, and 17/18 or 17/48 endowments.
Outcome	A may give or take; B may return, do nothing, or punish. Students see individual ECU and instructors see an aggregate report.
Students	https://moonlighting.beer-lab.org/room/moonlighting_en
Instructor	https://moonlighting.beer-lab.org/demo
Local test	http://localhost:8007/demo with GAME_FAMILY=moonlighting.
Experimental unit	Interactions in groups of 2 participants.
Decision	The first player sends or takes resources; the second responds with reward or punishment.
Topics	reciprocity; costly punishment; intentions; inequality; trust.
JEL	C72; C91; C92; D63; D91.

Attention

The moonlighting.beer-lab.org domain and the game's catalog card are proposed routes requiring laboratory setup. Do not distribute them to students until the production deployment is verified. The local instance was verified on port 8007.

1.1 Game structure and learning objectives

Each pair has starting endowments E_A, E_B . A chooses a , positive when giving ECU to B and negative when taking ECU from B. In the basic game $a \in \{-6, -5, \dots, 6\}$ and $E_A = E_B = 12$.

Giving is tripled for B; taking transfers one unit from B to A. Before B's response:

$$A_1 = E_A - a, \quad B_1 = \begin{cases} E_B + 3a, & a > 0, \\ E_B + a, & a \leq 0. \end{cases}$$

B observes A's action and either returns $r \geq 0$, does nothing, or spends $p \geq 0$ on punishment:

$$\text{return: } (A_2, B_2) = (A_1 + r, B_1 - r), \quad \text{punishment: } (A_2, B_2) = (A_1 - 3p, B_1 - p).$$

The software prevents negative balances. Under the 12/12 rules, B may return at most 18 ECU. Returning 1 costs B 1 and gives A 1; spending 1 on punishment costs B 1 and takes 3 from A. If A gives 2, the interim balances are 10 and 18; if B returns 3, final balances are 13 and 15 ECU. By the end, students should distinguish giving from taking; monetary self-interest from reciprocity and punishment; outcomes from intentions; descriptive context effects; and observed evidence from causal interpretation.

Access and session preparation

2.1 Access through the updated laboratory website

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

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

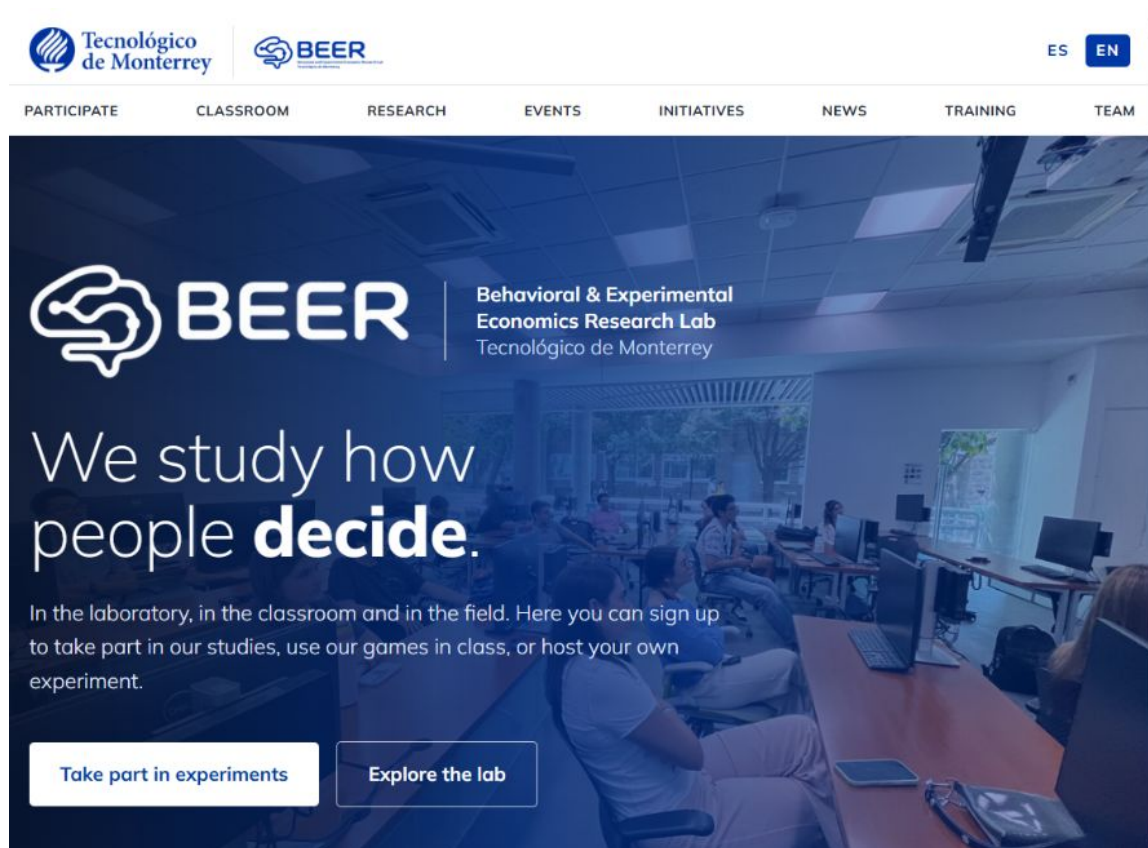


Figure 2.1: Current institutional website. Select **CLASSROOM** in the top navigation menu to open the teaching experiments. Captured on October 7, 2026.

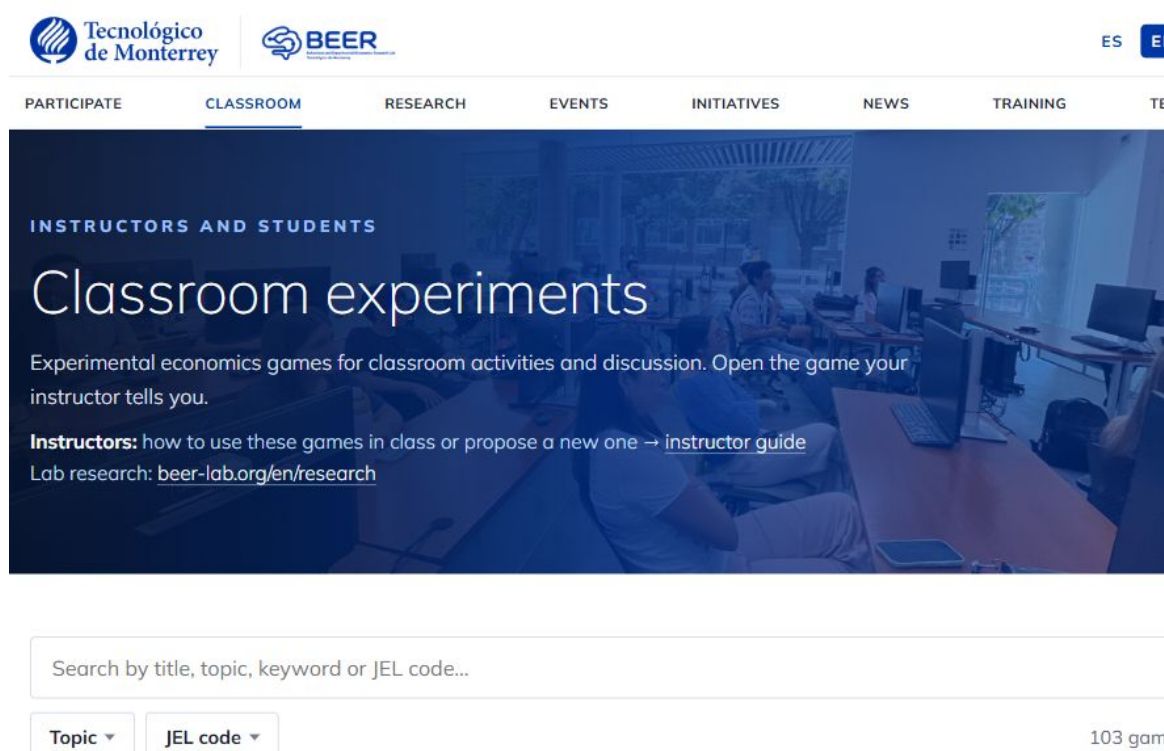


Figure 2.2: Current catalog: search by title, topic, or JEL code. Then locate this family's card and select language and edition. Captured on October 7, 2026.

Checking resources, comprehension, and participant requirements

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

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

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

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

g — una interacción	Juego de moonlighting / Moonlighting Game — BEER Lab Seleccione una variante de este juego. Select a version of this game.
g — 10 rondas, pareja fija	
g — 10 rondas, parejas reasignadas	
ig — one interaction	
ig — 10 rounds, fixed partner	
ig — 10 rounds, reassigned partners	
g extendido — acuerdo no vinculante	
g extendido — acción de A al azar	
g extendido — respuestas contingentes	
g extendido — dotaciones 17/18	
g extendido — dotaciones 17/48	
oonlighting — nonbinding agreement	
oonlighting — A action assigned at random	
oonlighting — contingent responses	
oonlighting — 17/18 endowments	
oonlighting — 17/48 endowments	

Figure 2.3: Demo contains only the configurations of this game family, in both languages and editions.

Rooms

Current rooms:

[ES] Juego de moonlighting
[EN] Moonlighting Game
[ES] Juego de moonlighting extendido
[EN] Extended Moonlighting Game

Figure 2.4: Rooms contains the four rooms for this family: basic and extended editions in Spanish and English.

Room: [EN] Moonlighting Game

Create a new session

Session Config

[EN] Moonlighting — one interaction

Number of participants

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

Create

[Configure session](#) 

App sequence

moonlighting_game (10 rounds)

Moonlighting game after Abbink, Irlenbusch and Renner (2000), with teaching variants.

Figure 2.5: Session-creation form for the basic English room. Check the selected configuration and participant requirement before creating the session.

Downloading a session with several rounds

For the instructor

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

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

Start at <https://beer-lab.org/>, open the teaching-games section at <https://teaching.beer-lab.org/>, and select the Moonlighting card once it has been published. Students use a room URL; instructors use Demo or the room's administration page. These are the proposed production routes:

Basic Spanish	https://moonlighting.beer-lab.org/room/moonlighting_es
Basic English	https://moonlighting.beer-lab.org/room/moonlighting_en
Extended Spanish	https://moonlighting.beer-lab.org/room/moonlighting_extendid
Extended English	https://moonlighting.beer-lab.org/room/moonlighting_extended
Instructors	https://moonlighting.beer-lab.org/demo

The isolated instance lists exactly 16 configurations under **Demo** and four rooms under **Rooms**. The basic English room initially selects one interaction and offers only its three modes; the extended

English room offers five treatments. If another game appears, do not start the session; consult the laboratory. The screenshots show the filtered local instance.

Before students arrive, check the network and projector, agree with the laboratory on any ECU-to-money conversion, select language and treatment, create a session, open **Monitor** and **Report**, and test a link on another device. Demo is convenient for practice. Use the persistent room for class; share the room URL or the current individual links. If the database is reset, old individual links stop working and a new session must be created.

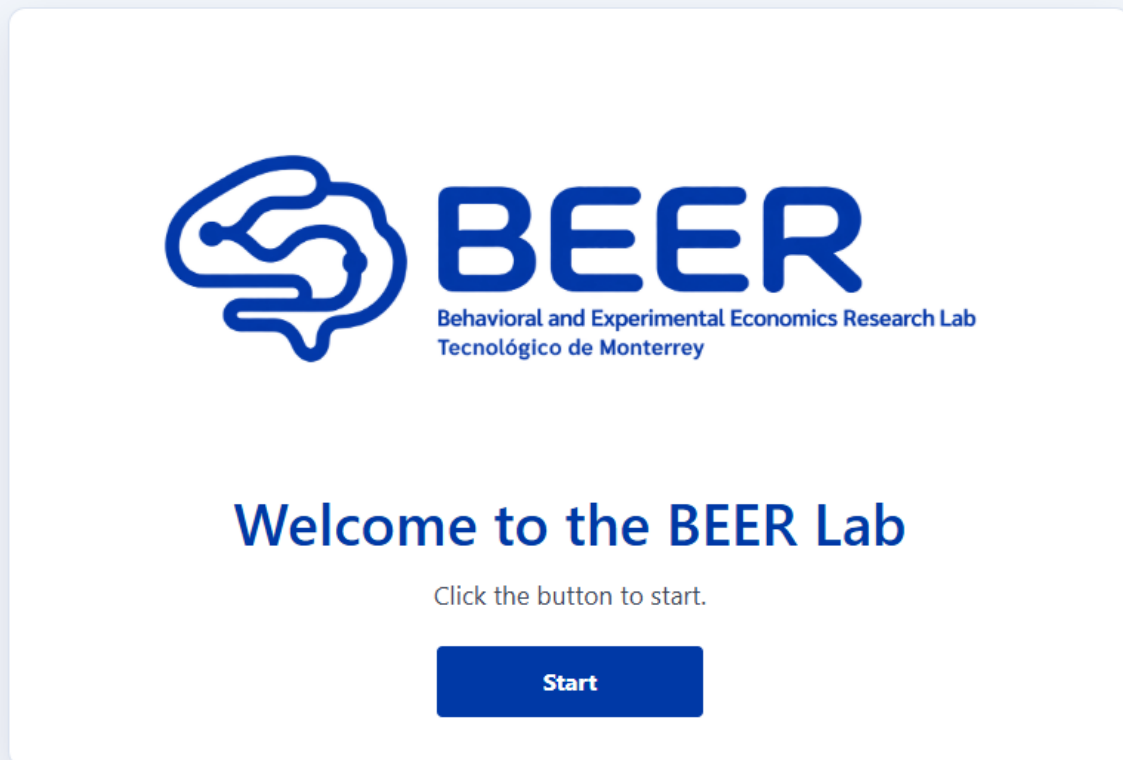


Figure 2.6: Students enter through the basic room. After the instructor creates a session, the button begins participation.

For the instructor

Do not project personal links or the data export. Ensure students do not open two tabs with the same room link: their browser may retain the same participant identity in both.

oTree

DemoSessionsRoomsDataServer Check

[EN] Moonlighting — one interaction: session 'nlczxk73' (demo)

New

Links

Monitor

Data

Payments

Report

Description

Below are temporary links for testing and demonstration. To launch a real study, either create persistent links by setting up a [room](#), or create a session through the [sessions page](#).

Choose one of the following options to play the session:

Combined views

Split-screen view

Launch

Grid view

Launch

Session-wide testing link

Open the below link in up to 4 browser tabs.

<http://127.0.0.1:8007/join/bekafoki>

Single-use links

Open each link in its own browser tab.

P1

<http://127.0.0.1:8007/initializeParticipant/ht3xt0zt>

P2

<http://127.0.0.1:8007/initializeParticipant/yrehc8vu>

P3

<http://127.0.0.1:8007/initializeParticipant/fa4tlpux>

P4

<http://127.0.0.1:8007/initializeParticipant/uygye2v>

Figure 2.7: The session page offers a general link and temporary individual links. The codes shown belong to a local test.

oTree

DemoSessionsRoomsDataServer Check

[EN] Moonlighting — one interaction: session 'nlczxk73' (demo)

New

Links

Monitor

Data

Payments

Report

Description

ID	Code	Label	Progress	App	Round	PageName	Waiting	WaitsFor	Since
P1	ht3xt0zt		14/140	moonlighting_game	1	FinalSummary			27m
P2	yrehc8vu		14/140	moonlighting_game	1	FinalSummary			27m
P3	fa4tlpux		14/140	moonlighting_game	1	FinalSummary			27m
P4	uygye2v		14/140	moonlighting_game	1	FinalSummary			27m

4 started, 4 in progress (total: 4)

Updates: P1, P2, P3, P4

Advance slowest participants

Figure 2.8: Monitor shows progress and pending responses before results are projected.

Student journey

The cover displays the BEER Lab logo, its purpose, and rules for silence, privacy, and page use. Each student confirms having read the rules. The next page explains balances and a numerical example. All students answer three comprehension questions. Correct answers are 6 additional ECU for B, 3 fewer ECU for A after one unit of punishment, and a human A as the source of the first action except in the random-action treatment.

A chooses one of 13 actions. Positive means giving and negative means taking. B waits to observe the action and then returns, does nothing, or punishes. B's screen shows interim balances, feasible limits, and a final-balance preview. The round result shows both actions and payoffs. The explicit final screen gives each student's total and asks them to await the instructor.



Welcome to the BEER Lab

The **Behavioral and Experimental Economics Research Lab** of the Department of Economics at Tecnológico de Monterrey is a space designed to learn about economic decision-making through controlled activities.

Today we will study giving, taking, rewarding, and punishing in an anonymous interaction.

During the session

- Remain quiet. Do not talk or communicate with other participants.
- Make your decisions individually and privately.
- Follow the instructions on screen. Do not refresh, close, or leave this page.
- If you need help, raise your hand or contact the laboratory staff privately.

I have read and understood the laboratory rules.

- ☐ Sí
- ☐ No

Start

Con tecnología de [oTree](#)

Figure 3.1: Institutional welcome and general laboratory rules.



How the game works

Round 1 of 1



How the game works

Round 1 of 1
One interaction

Resources and unit of account

Initial endowments per round: A receives 12 ECU and B receives 12 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.

Basic version · Original rules, no agreement

A and B each start with 12 ECU. A may give or take up to 6 ECU. B observes A's action before responding.

Player A

12 ECU

Player B

12 ECU

Initial endowments

A starts with 12 ECU. B starts with 12 ECU.

A can give ECU to B, transfer nothing, or take ECU from B. Each unit A gives becomes three units for B. Each unit A takes reduces B's balance by one and increases A's balance by one.

Next, B can return ECU to A, do nothing, or punish A. Returning one unit costs B one and adds one to A. Each unit B spends on punishment costs B one and reduces A's balance by three. No balance can be negative.

You will play one interaction.

A's action is chosen by a person.

Example with 12 ECU each: if A gives 2 ECU, before B responds A has 10 ECU and B has 18 ECU. If B returns 3 ECU, they finish with 13 and 15 ECU.

All amounts appear in ECU. Any conversion to real money is determined separately by the laboratory.

Continue

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



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



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

Comprehension check

Resources and unit of account

ECU stands for Experimental Currency Units. It is the unit of account for this activity.
This session does not convert ECU into real money.

Original rules, no agreement

Example with 12 ECU each: if A gives 2 ECU, before B responds A has 10 ECU and B has 18 ECU. If B returns 3 ECU, they finish with 13 and 15 ECU.

If A gives 2 ECU, how many additional ECU does B receive before responding?

7

Your answer: 7. The correct answer is 6. Review the examples: giving 2 adds 6 to B, and spending 1 on punishment removes 3 from A. Check who determines the first action, too.

If B spends 1 ECU on punishment, how many ECU does A lose?

3

Who determines the first action in this version?

- ☒ A person in role A
- ☐ The system, at random

Check and continue

Con tecnología de [oTree](#)

Figure 3.5: Current comprehension check with an incorrect answer, its specific explanation, and retained responses. Continuation 2/2.

Player A's decision

Player A

Round 1 of 1 · Original rules, no agreement

Choose one action. B will observe what happened and then decide whether to return ECU, do nothing, or punish.

First action	A	B
☐ Takes 6 ECU from B	18 ECU	6 ECU
☐ Takes 5 ECU from B	17 ECU	7 ECU
☐ Takes 4 ECU from B	16 ECU	8 ECU
☐ Takes 3 ECU from B	15 ECU	9 ECU
☐ Takes 2 ECU from B	14 ECU	10 ECU
☐ Takes 1 ECU from B	13 ECU	11 ECU
☐ Transfers no ECU	12 ECU	12 ECU
☐ Gives B 1 ECU	11 ECU	15 ECU
☐ Gives B 2 ECU	10 ECU	18 ECU
☐ Gives B 3 ECU	9 ECU	21 ECU
☐ Gives B 4 ECU	8 ECU	24 ECU
☐ Gives B 5 ECU	7 ECU	27 ECU
☐ Gives B 6 ECU	6 ECU	30 ECU

Confirm my decision

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Figure 3.6: A's decision table shows balances after the first move, before B responds.

Player B's response

Player B

Round 1 of 1

A chose this action:

Gives B 3 ECU**A****9 ECU****B****21 ECU**

Choose how to respond. You may spend up to 3 ECU on punishment or return up to 18 ECU. Use a whole number.

Response type

- ☐ I do nothing
- ☐ I return ECU to A
- ☐ I punish A

ECU amount

If you do nothing, enter 0. To return or punish, enter a positive number.

Confirm my response

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Figure 3.7: B's response shows the observed action, interim balances, feasible responses, and a preview.

Round result

Round 1 of 1 · Player A

First action

Gives B 3 ECU

B's response

Returns 2 ECU to A

Final balances for this round

Player A

11 ECU

Player B

19 ECU

Your result this round: **11 ECU** Your cumulative total: **11 ECU**

[Continue to the closing page](#)

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Figure 3.8: The private result displays both roles' actions and balances, plus the student's cumulative total.



The activity is complete

Thank you for participating. Please remain seated and wait for your instructor. Aggregate results will be discussed in class.

Your total result · Player A

11 ECU

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Figure 3.9: The final screen asks students to remain in place for the class discussion.

Instructor report and classroom feedback

The report gives participant, pair, completed-interaction, and pending-interaction counts. While any interaction remains pending, reveal is disabled. After all finish, select **Reveal aggregate results**. The page shows no individual response even after reveal. Read the histogram first:

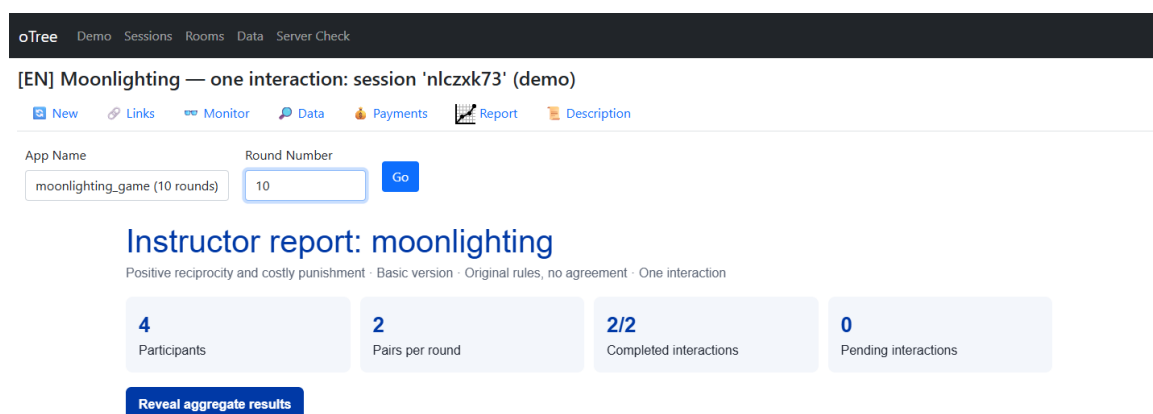


Figure 4.1: The report before reveal; statistics are not yet projected.

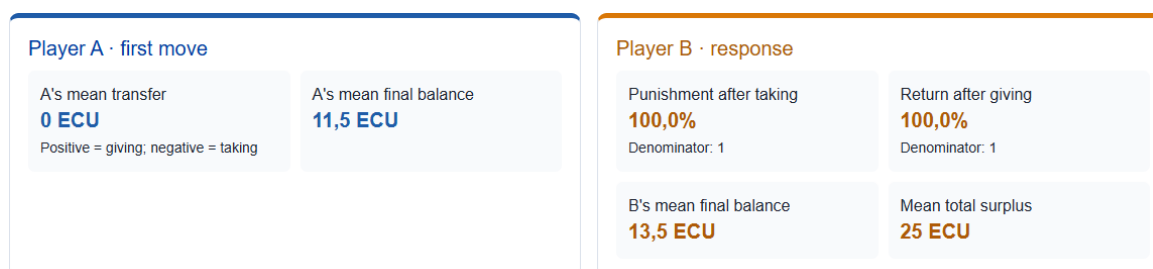


Figure 4.2: Separate summaries for A (blue) and B (orange), with conditional rates and denominators.

how many people gave, took, or left balances unchanged? Next consider punishment *after taking* and returns *after giving*. Each rate uses interactions in its own condition as the denominator; the report shows a dash when there are none. The conditional table reports the mean effect on A as $+r$ for a return and $-3p$ for punishment. Ten-round modes add a round-by-round chart. Do not mistake A's mean choice for B's behavior or infer motives from a single bar.

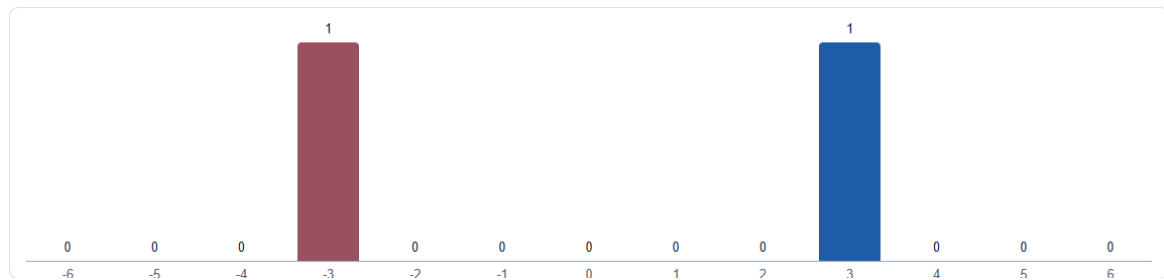


Figure 4.3: Signed histogram of A's first move. Each bar counts completed interactions: taking on the left, giving on the right.

First action	n	Returns / Inaction / Punishes	Mean effect on A
Takes 6 ECU from B	0	—	—
Takes 5 ECU from B	0	—	—
Takes 4 ECU from B	0	—	—
Takes 3 ECU from B	1	0 / 0 / 1	-3 ECU
Takes 2 ECU from B	0	—	—
Takes 1 ECU from B	0	—	—
Transfers no ECU	0	—	—
Gives B 1 ECU	0	—	—
Gives B 2 ECU	0	—	—
Gives B 3 ECU	1	1 / 0 / 0	2 ECU
Gives B 4 ECU	0	—	—
Gives B 5 ECU	0	—	—
Gives B 6 ECU	0	—	—

Figure 4.4: B's response conditional on A's action: return, no action, and punishment are distinct.

Feedback script

Ask first what is observed, then which mechanisms could explain it, and finally what additional comparison would separate them. Punishment after taking is consistent with negative reciprocity, but could also reflect concern about the allocation. Compare random actions or unequal endowments before attributing intent.

Theory, predictions, and published evidence

5.1 Monetary self-interest benchmark

If each person maximizes only their own ECU and both know this, B neither returns nor punishes, since both are costly. A therefore takes the maximum. In the one-shot 12/12 game, the benchmark is $a = -6$ and response 0, producing (18, 6). This is an analytical benchmark, not a claim that all students will choose it. Repeated fixed partnerships allow reciprocity or reputation to affect earlier rounds; reassignment reduces the scope for a lasting bilateral relationship.

5.2 Reciprocity, intentions, and inequality

Positive reciprocity means responding favorably to a kind action, for example returning money after receiving it. Negative reciprocity means reacting unfavorably to a hostile action despite a personal cost. [Rabin \(1993\)](#) and [Falk and Fischbacher \(2006\)](#) assign a role to perceived intentions; the same action assigned at random may elicit another response. The inequality-aversion model of [Fehr and Schmidt \(1999\)](#) depends on final allocations and may predict some similar actions without hostile intent. The 17/48 treatment helps contrast these arguments, but a small class cannot identify a complete model.

Theoretical foundation

The same $a = -3$ produces different allocations when B starts with 18 versus 48 ECU. Compare B's response *conditional on the same a* , not just overall averages. If punishment changes with initial endowments, distributions and reference points matter. If it changes when a human choice becomes random, intention attribution is plausible. Neither comparison alone establishes a unique motive.

In the original article, [Abbink et al. \(2000\)](#) report that retribution was more prominent than returns; nonbinding contracts increased trust, without clear evidence that they also increased reciprocity. [Falk et al. \(2008\)](#) offer evidence that intentions matter. [Cox et al. \(2008\)](#) examine controls for trust, fear, and reciprocity. [Engelmann and Strobel \(2010\)](#) contrast inequality aversion and reciprocity under unequal endowments. These studies guide hypotheses; their numerical findings are not targets every class should reproduce.

5.3 Basic modes: one or ten rounds

The three modes share the same choices and payoff rules. One interaction limits reputation and learning. With a fixed partner for ten rounds, a player can anticipate the same partner's future responses; reassignment keeps roles fixed while changing partners when enough are available. With fewer than ten pairs, some repeats are unavoidable. The report's round chart uses completed interactions as each round's denominator.

Feedback script

Before revealing results, ask students to predict A's and B's behavior in the first and last rounds. Then compare series and ask whether change reflects learning, reputation, partner composition, or chance. A causal comparison among modes would require comparably assigned groups.

Extended variants

Run each variant as a separate one-interaction session. Do not mix treatments or reveal one treatment's results to students who have yet to play another.

6.1 Nonbinding agreement

B proposes A's action and B's own response. A accepts or rejects, but neither person loses an option, and the promise is never implemented automatically. Comparing this condition to the no-agreement game asks whether a nonbinding signal raises A's willingness to give or B's returns. If only monetary payoffs matter and promises have no credibility, final choices should not change; trust and expectations can alter behavior. [Abbink et al. \(2000\)](#) compare games with and without

Player B's proposal

Player B · Nonbinding agreement

Suggest an action for A and a response of your own. This proposal binds neither person. The promised response must be feasible if A follows your suggestion.

Proposed action for A

Choose an option ▾

Your promised response

Use a positive number to promise a return, zero for inaction, or a negative number to promise punishment. For example, -2 means spending 2 ECU on punishment.

Continue

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Figure 6.1: B proposes an action and a feasible response; the proposal binds neither player.

Review B's proposal

Player A · Nonbinding agreement

B proposes the following action and response. You may accept or reject. Neither choice changes your permitted actions or makes the proposal binding.

Proposed action for A

Gives B 3 ECU

Your promised response

Returns 2 ECU to A

Review B's proposal

- ☐ I accept the proposal
- ☐ I reject the proposal

Record my response

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Figure 6.2: A reads and accepts or rejects the proposal before deciding freely.

Nonbinding agreement

Accepted proposals: 2/2 (100,0%)

A followed the suggestion, among accepted proposals: 100,0% · Denominator: 2

Accepting does not compel compliance. The compliance rate compares A's observed action with B's suggestion among accepted agreements only.

Figure 6.3: The report separates acceptance from compliance with the suggested A action.

Feedback script

What share accepted? Among those who accepted, how many took the proposed action? Did B's actual return resemble the promise? The report summarizes acceptance and A's compliance; B's promise is available in the export for careful analysis.

6.2 A's action assigned at random

The system selects a from the permitted actions and tells B that A did not choose it. A sees the action but does not decide. Compare B's response to the *same action* when chosen by a person and by a random mechanism. If intentions matter, punishment or returns may differ; if only balances matter, responses should be more similar. [Falk et al. \(2008\)](#) and [Cox et al. \(2008\)](#)

Randomly assigned action

Player A · A's action assigned at random

The system selected this action. B will be told explicitly that it was not your decision.

Gives B 1 ECU

Continue

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Figure 6.4: A sees the system-assigned action; B is told it was not a personal choice.

In this session A did not choose the first action. To discuss intentions, compare B's responses to the same action with a human-choice session.

Figure 6.5: The report reminds instructors that the first action was exogenous.

Feedback script

Compare punishment after the same $a < 0$ with a human-choice session. Random assignment may change the mixture of actions, so a difference in overall averages is not a clean test of intentions.

6.3 B's contingent responses

Before learning A's actual choice, B records a response for each of A's 13 possible actions. Only the response corresponding to the realized action affects payoffs; the others remain in the data.

This treatment yields a within-person response profile. Reciprocity suggests more punishment after taking and more returns after giving. Cox et al. (2008) discuss strategy responses versus

Your response to every possible A action

Player B · B's contingent responses

Before learning what A will do, specify what you would do after each possible action. Only one of your responses will be implemented.

Enter a positive number to return ECU to A, zero to do nothing, or a negative number to punish. For example, -2 means spending 2 ECU and reducing A's balance by 6 ECU.

If A...	Balances before B	B's response
Takes 6 ECU from B	A: 18 ECU B: 6 ECU	 -6 of 6
Takes 5 ECU from B	A: 17 ECU B: 7 ECU	 -5 of 7
Takes 4 ECU from B	A: 16 ECU B: 8 ECU	 -5 of 8
Takes 3 ECU from B	A: 15 ECU B: 9 ECU	 -5 of 9
Takes 2 ECU from B	A: 14 ECU B: 10 ECU	 -4 of 10
Takes 1 ECU from B	A: 13 ECU B: 11 ECU	 -4 of 11

Figure 6.6: B completes a feasible response for each A action; negative numbers indicate punishment. Continuation 1/2.

Feedback script

Does the same B move from punishment to return as A's action changes from taking to giving? Use the contingent-response export to answer. The public chart uses only realized responses and avoids exposing individual profiles.

Gives B 2 ECU	A: 10 ECU B: 18 ECU	 -3 of 18
Gives B 3 ECU	A: 9 ECU B: 21 ECU	 -3 of 18
Gives B 4 ECU	A: 8 ECU B: 24 ECU	 -2 of 18
Gives B 5 ECU	A: 7 ECU B: 27 ECU	 -2 of 18
Gives B 6 ECU	A: 6 ECU B: 30 ECU	 -2 of 18

6.4 Nearly equal and unequal endowments

A begins with 17 ECU in both sessions; B begins with 18 or 48. A chooses $-9, -6, -3, 0, 3, 6, 9$. B observes the realized action and can return up to their available balance or punish without producing a negative balance. Engelmann and Strobel (2010) use comparable endowments and A-action grids to contrast reciprocity with inequality aversion. Their published procedure elicited contingent responses, whereas B responds sequentially here. These sessions are therefore *not an exact replication*.

	B: 7 ECU	-5 of 7
Takes 4 ECU from B	A: 16 ECU B: 8 ECU	 -5 of 8
Takes 3 ECU from B	A: 15 ECU B: 9 ECU	 -5 of 9
Takes 2 ECU from B	A: 14 ECU B: 10 ECU	 -4 of 10
Takes 1 ECU from B	A: 13 ECU B: 11 ECU	 -4 of 11
Transfers no ECU	A: 12 ECU B: 12 ECU	 -4 of 12
Gives B 1 ECU	A: 11 ECU B: 15 ECU	 -3 of 15
Gives B 2 ECU	A: 10 ECU B: 18 ECU	 -3 of 18
Gives B 3 ECU	A: 9 ECU B: 21 ECU	 -3 of 18
Gives B 4 ECU	A: 8 ECU B: 24 ECU	 -2 of 18
Gives B 5 ECU	A: 7 ECU B: 27 ECU	 -2 of 18
Gives B 6 ECU	A: 6 ECU B: 30 ECU	 -2 of 18

[Submit my responses](#)

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Figure 6.7: B completes a feasible response for each A action; negative numbers indicate punishment. Continuation 2/2.

B responded to every possible action, but only one response per pair and round determines payoffs. The main report uses implemented responses; complete contingent schedules are available in the data export.

Figure 6.8: The report uses implemented responses; the full contingent matrix remains in the export.

Player A's decision

Player A

Round 1 of 1 · Nearly equal endowments: 17/18 ECU

Choose one action. B will observe what happened and then decide whether to return ECU, do nothing, or punish.

First action	A	B
☐ Takes 9 ECU from B	26 ECU	9 ECU
☐ Takes 6 ECU from B	23 ECU	12 ECU
☐ Takes 3 ECU from B	20 ECU	15 ECU
☐ Transfers no ECU	17 ECU	18 ECU
☐ Gives B 3 ECU	14 ECU	27 ECU
☐ Gives B 6 ECU	11 ECU	36 ECU
☐ Gives B 9 ECU	8 ECU	45 ECU

Confirm my decision

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Player A's decision

Player A

Round 1 of 1 · Unequal endowments: 17/48 ECU

Choose one action. B will observe what happened and then decide whether to return ECU, do nothing, or punish.

First action	A	B
☐ Takes 9 ECU from B	26 ECU	39 ECU
☐ Takes 6 ECU from B	23 ECU	42 ECU
☐ Takes 3 ECU from B	20 ECU	45 ECU
☐ Transfers no ECU	17 ECU	48 ECU
☐ Gives B 3 ECU	14 ECU	57 ECU
☐ Gives B 6 ECU	11 ECU	66 ECU
☐ Gives B 9 ECU	8 ECU	75 ECU

Confirm my decision

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Figure 6.10: In the 17/48 context, B begins much richer; compare responses at the same a .

Feedback script

At $a = 0$, are the initial allocations the same? Does punishment after $a = -3$ or a return after $a = 3$ change? Distinguish a reaction to A's move from a reaction to initial inequality. Use the histogram to confirm that both sessions contain observations at the same a before comparing conditional rates.

Teaching plan, data, and troubleshooting

1. **Before class (5–10 min):** check the room, projector, language, even participant count, and fresh session; record predictions for both roles.
2. **Entry and rules (5 min):** share the room and remind students that decisions are private. Do not suggest a correct choice.
3. **Play (10–20 min for one interaction; longer for ten):** watch **Monitor** and wait for every pair.
4. **Reveal (5 min):** open **Report**; once pending is zero, reveal aggregates and first describe the distribution.
5. **Discussion (15–20 min):** compare monetary self-interest, reciprocity, intention, and inequality using conditional denominators.
6. **Close (5 min):** distinguish the classroom observation, a possible interpretation, and published evidence.

The custom export has one row per player and round: session and participant codes, treatment, role, partner, A's action, B's response, payoffs, proposal and acceptance where applicable, and the 13 contingent responses. Handle data under institutional rules and never project individual codes. ECU are experimental units; the software does not automatically create monetary payments. If a student sees *Please wait*, check **Monitor** for an unfinished partner. If an individual link stops working after a database reset, create a new session and share new links. If **Demo** lists other games, ask the laboratory to check instance isolation before proceeding.

Attention

The local demo does not prove that the proposed domain has been published. Deployment and DNS belong to the laboratory. Keep family databases separate so that Demo, Sessions, and Data do not mix games.

Operational checklist

Confirm language, version, treatment, and an even participant count; create and check the session; share current links; wait for zero pending interactions before revealing; discuss alternative mechanisms and inferential limits.

Expanded teaching manual for nonspecialist instructors

This part brings together what an instructor needs to turn Moonlighting into a learning experience. It complements the operational material above. It can be read before the first session and reused as a script during the discussion of results. The central question is how people respond to kind or hostile actions when they can reward or punish at a cost. The guide always separates four levels: rules, benchmark prediction, observed behavior, and interpretation. Moving directly from a bar in a chart to a psychological explanation confuses those levels.

8.1 Conceptual map before opening the session

8.1.1 Unit of analysis

The relevant unit is the pair in each round, distinguishing the first action and the subsequent response. One data row is not always one independent person: the same person may decide repeatedly, and interacting participants share information, payoffs, or history. The instructor should therefore state what enters the numerator, what enters the denominator, and whether observations are people, decisions, pairs, groups, or rounds. This prevents thirty repeated decisions from being presented as thirty independent participants.

The task is to A transfers or takes ECU; then B may return, do nothing, or spend to reduce A's payoff. Before presenting theory, ask students to restate the rule and identify what information is available when they decide. A correct calculation does not guarantee understanding of the strategic or behavioral structure. Check available actions, information, payoffs, order, and feedback timing separately.

8.1.2 Benchmark prediction

The starting point is: if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response. The benchmark is a disciplined comparison, not a moral statement about what a person ought to do. First write the assumptions that support it, then derive the action or pattern, and only then compare it with the class. If information, repetition, incentives, matching, or the reference point changes, derive the prediction again instead of carrying it over automatically.

Keep equilibrium, efficiency, and fairness separate. An action can be a best response and generate a poor joint outcome; another action can raise surplus and remain vulnerable to unilateral deviation. Likewise, an equal outcome need not be efficient, and an efficient distribution does not reveal

the process that produced it. Asking the class to label each statement as positive, normative, or strategic reduces confusion.

8.1.3 Alternative mechanisms

The literature and treatments permit discussion of positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion. These mechanisms are not interchangeable labels. Two can predict the same baseline action and separate only when a treatment changes. The informative comparison therefore asks not only how much behavior occurred but also what experimental change should increase, reduce, or leave the pattern unchanged if one mechanism matters.

Organize discussion in three columns. Write the observed fact in the first, such as a share, median, or trajectory. List compatible mechanisms in the second. Record the additional evidence needed to distinguish them in the third. The third column is essential because a classroom session rarely identifies a stable preference or causal relationship by itself.

8.2 Worked example and explanation

Compare a positive transfer by A with a taking action of the same absolute size. If B returns after receiving and punishes after losing, the response changes with the sign and possibly with intention. A variant that assigns A's action randomly helps separate response to outcome from response to intention, although the comparison requires enough observations.

Solve the example in six steps. First list actions and possible states. Second calculate payoffs or consequences without interpreting motives. Third derive the theoretical benchmark under its assumptions. Fourth identify the minimum observation needed to evaluate that benchmark. Fifth compare treatments while stating what is held constant and what changes. Sixth formulate a limited conclusion: "the pattern is consistent with" is more accurate than "the experiment proves" when rival explanations remain.

Then change one parameter and ask for a new prediction before calculating. This pause turns the example into a reasoning tool. It also reveals whether students memorized an answer or understood the mechanism. If answers diverge, ask each group to identify the assumption producing the difference.

8.3 Reading the instructor report

The central measures are initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response. Write the denominator next to every indicator. A rate can divide by eligible participants, completed decisions, formed pairs, groups, or rounds; these alternatives are not equivalent. If records are incomplete, show how many were excluded and why.

Use this reading order:

1. Verify participants, groups, and completed decisions. Do not interpret percentages before checking coverage.
2. Inspect the full distribution. A mean can hide two groups with opposing responses or a concentration at focal values.

3. Compare the median, range, and theoretically relevant categories. Explain whether the graph counts people or decisions.
4. Inspect time paths only when rounds are comparable. Changes in matching or treatment must be marked.
5. Compare treatments with absolute differences and denominators, not merely with bars of different heights.
6. Select one anonymous case or sequence connecting rules and the aggregate. Never use it to identify or ridicule a student.

A visible difference in a small class is descriptive evidence from that session. Do not call it a causal effect without appropriate assignment, adequate size, and a comparison defined before seeing the data. Across classes, composition, time, and prior experience may change together. The pedagogical value lies in stating a prediction, confronting it with evidence, and asking what design would teach us more.

8.4 Step-by-step debrief script

Begin without revealing results. Ask for the benchmark prediction and which assumption students find most demanding. Record two quantitative class predictions. Next reveal the observation count and distribution, initially withholding the mean if it would distract from heterogeneity. Ask students to describe the chart without explaining causes.

In a second stage, show aggregate measures and ask: which observation contradicts the simplest prediction, which remains compatible with it, and what heterogeneity disappears in the average? Accept multiple explanations, but require each to yield a testable prediction. Introduce the variants: nonbinding agreement; random first action; contingent-response method; equal or unequal endowments. For each variant, identify the single changed element, predicted direction, and report measure to inspect.

Close by connecting the laboratory to conflict, sanctions, employment relationships, and the design of redress mechanisms. Point out which elements of the real setting are absent: institutions, selection, repetition, long-run consequences, or rich information. The analogy is useful when it isolates a mechanism; it becomes misleading if the class assumes that the laboratory reproduces the full context.

A verbal sequence that works well is: “first describe,” “now derive,” “then interpret,” and “finally ask what evidence is missing.” This discipline allows a nonspecialist instructor to lead a rigorous discussion without treating every departure as a bias or every match as definitive confirmation.

8.5 Comparable class plans

8.5.1 A 50-minute class

Use one mode. Spend five minutes on rules and comprehension, five on private predictions, ten on the activity, five collecting predictions about the aggregate, fifteen revealing the report in layers, and ten connecting the result to theory. The goal is not to cover every variant but to ensure that every student can explain how people respond to kind or hostile actions when they can reward or punish at a cost. End with one written sentence separating outcome from mechanism.

8.5.2 An 80-minute class

Run the baseline and one variant from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments. Allow ten minutes for instructions, fifteen for each treatment, twenty for comparing distributions, and fifteen for theory and applications. Before the second treatment, request a directional prediction. If the result points the other way, do not dismiss it: inspect comprehension, composition, denominators, and descriptive power.

8.5.3 A 110-minute class

Combine experience, derivation, and design. After two treatments, give small groups a rival explanation and ask them to propose a third condition that distinguishes it. Each group must define the manipulated variable, outcome, unit of analysis, and prediction. Close by comparing proposals with existing variants and with conflict, sanctions, employment relationships, and the design of redress mechanisms. This stage turns the student from participant into experimental designer.

8.6 Exercises with answer guidance

8.6.1 1. Reconstructing the prediction

Question. State the benchmark and three indispensable assumptions. What observation would be a departure?

Guidance. Begin from if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response. Mention incentives, information, and horizon, and define the observation at the correct level. A departure is inconsistent with the full assumption set; it does not automatically identify its cause.

8.6.2 2. Auditing a percentage

Question. The report displays 60 percent. Propose two possible denominators and explain how interpretation changes.

Guidance. It could be 60 percent of eligible people or of completed decisions. If some people did not decide, the rates differ. A complete answer names numerator, denominator, exclusions, and aggregation level.

8.6.3 3. Reading heterogeneity

Question. Two classes have the same mean, but one is concentrated around it and the other has two modes. What does the instructor learn?

Guidance. The mean does not exhaust the distribution. The second class may combine different strategies or interpretations. Compare the median, dispersion, and categories linked to initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response before explaining mechanisms.

8.6.4 4. Separating explanations

Question. Select two mechanisms from this list: positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion. Design a contrast that produces different

predictions.

Guidance. Change one relevant element, hold others constant, and state each directional prediction. A variant from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments may help, but the justification must connect manipulation and report measure.

8.6.5 5. Interpreting no difference

Question. Two treatments produce similar means. Does the manipulation not matter?

Guidance. Not necessarily. There may be weak comprehension, a small sample, offsetting responses, manipulation failure, or effects in tails and dispersion. Inspect descriptive uncertainty and the full distribution before concluding.

8.6.6 6. Transferring carefully

Question. Relate the activity to conflict, sanctions, employment relationships, and the design of redress mechanisms and identify two contextual differences.

Guidance. A convincing application states the common mechanism and the limits. Real consequences, selection, experience, institutions, and repetition can change behavior. The conclusion should be an informed hypothesis rather than a universal prediction.

8.7 Frequently asked questions and model answers

Should theory be explained before play? In a first session, collect predictions without revealing the full solution. Explain rules, payoffs, and information. Then derive if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response. In a second session, reverse the order and assess whether theory improves prediction or only changes vocabulary.

Is there a correct answer? Separate a normative or equilibrium solution from a behavioral prediction. Theory supplies a conditional benchmark. The laboratory reveals what occurs and why a reasonable person may choose differently.

Does a departure prove irrationality? No. It may reflect omitted preferences, beliefs, error, weak comprehension, or a different institution. Check controls and incentives. Then treat positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion as hypotheses requiring further comparisons.

Why show the distribution? The same mean can arise from moderate consensus or two opposing groups. A distribution reveals focal values, boundaries, and heterogeneity. In Moonlighting, connect those shapes to initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response.

How many observations are enough? There is no universal threshold for debriefing. A small class is useful when described cautiously. Treatment comparisons require several independent units, clear assignment, and common protocols. Repeated decisions do not create new participants.

Can sessions be pooled? Yes, if parameters and definitions remain fixed. Retain session identifiers and inspect each cohort first. If instructions, composition, or incentives change, document the heterogeneity.

What if results contradict the literature? Check rules, treatment, comprehension, exclusions, and calculation. If no error exists, preserve the result. A class need not reproduce a published

estimate. Ask what design would distinguish chance, composition, and mechanism.

How can embarrassment be avoided? Project aggregates and anonymous sequences. Avoid personal labels. Describe actions and consequences. The laboratory studies decisions under specific rules; it does not diagnose traits.

Should the decision be graded? Do not grade agreement with a prediction. Assess understanding: derive the benchmark, calculate a measure, explain a limitation, and design a comparison. Experimental incentives and academic assessment serve different purposes.

How should a variant be chosen? Begin with the mechanism to separate. Select from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments, state a direction and measure, and hold other elements constant. Do not run more conditions than can be analyzed.

What conclusion is appropriate? Use three sentences: what was observed, which mechanism it is consistent with, and what evidence is missing. The connection to conflict, sanctions, employment relationships, and the design of redress mechanisms should preserve those limits.

What should students remember? They should reconstruct the central tension, explain the benchmark, read the main denominator, and propose an institution that could change the outcome.

8.8 Diagnostic cases for interpretation practice

8.8.1 Agreement with the benchmark

The distribution is concentrated near the prediction derived from if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response. Do not conclude that everyone shared the same motive. Some calculated, others followed a signal, and others chose intuitively. The evidence supports the aggregate prediction under session conditions but does not identify individual reasoning. Ask what belief, process, or response-time measure would distinguish those routes.

Then introduce a variant from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments. If the pattern remains when the seemingly obvious mechanism weakens, the original explanation needs revision. A correct prediction does not automatically validate all its assumptions.

8.8.2 Two groups with opposite behavior

Half the class is at one extreme and half at the other; the mean lies where almost nobody chose. Showing only the average would create a fictional description. Calculate the median, modes, range, and share in theoretical categories. Ask whether heterogeneity is related to role, round, treatment, or comprehension.

Consider positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion. Write one additional observation for each. If it predicts role differences and none appear, it receives less relative support. If it predicts learning, inspect the trajectory. Do not fill missing measurement with a compelling story.

8.8.3 A large difference with few units

One treatment apparently doubles the main measure but contains two groups and the comparison contains three. Display each group before pooling. One extreme unit can create the difference. Twenty decisions nested in two groups are not twenty independent units.

Ask students to plan the next session: groups, assignment, primary measure, and exclusions. The answer should mention initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response and incomplete data. The experience thereby introduces design and transparency.

8.8.4 A null difference

Two conditions have the same mean. Before declaring that the manipulation does not matter, inspect compliance, comprehension, tails, and dispersion. Opposing subgroup effects can cancel. Define what range of differences would be pedagogically or economically meaningful and what size could distinguish it.

The cases teach four disciplines: do not infer motives from agreement, hide heterogeneity, confuse rows with units, or treat absence of evidence as evidence of absence.

8.9 Explanatory sequence for a complete class

8.9.1 Step 1: pose the problem without labels

Present the decision as a concrete situation and ask what information is missing. Do not announce the name of the bias, equilibrium, or preference at the start. The question is how people respond to kind or hostile actions when they can reward or punish at a cost. Collect private responses so the first speaker does not become a focal point.

8.9.2 Step 2: reconstruct rules and incentives

Ask one student to describe actions and another to describe consequences. A third explains available information. Draw the sequence. In Moonlighting, the decision is to A transfers or takes ECU; then B may return, do nothing, or spend to reduce A's payoff. Do not move to interpretation until the class can calculate a simple case.

8.9.3 Step 3: derive the benchmark

Write if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response. Underline each assumption. Ask what happens if one fails. Distinguish a logical derivation from an empirical expectation: an equilibrium strategy need not be played immediately by everyone.

8.9.4 Step 4: record predictions

Request one prediction about the mean, another about the distribution, and a third about a variant. Predictions should use initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response. Preserve the record; later comparison reveals learning and reduces hindsight.

8.9.5 Step 5: reveal in layers

Show coverage first, then distribution, measures, and comparisons. At every layer request description before explanation. If someone proposes positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion, ask what observation would distinguish it from another mechanism.

8.9.6 Step 6: work through one sequence

Use the worked example in this guide. Recalculate slowly and change one parameter. Ask each team to find one excessive conclusion and rewrite it with limited language. Editing claims is as important as calculation.

8.9.7 Step 7: compare institutions

Choose one condition from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments. Write a table with constant, change, prediction, and measure. If the variant changes several elements, acknowledge it. Ask whether a third treatment would separate explanations.

8.9.8 Step 8: transfer and close

Connect the mechanism to conflict, sanctions, employment relationships, and the design of redress mechanisms. Identify two differences between the laboratory and the real context. End with an exit response: prediction, evidence, compatible mechanism, and limitation. This structure assesses understanding without rewarding a particular decision.

8.9.9 A short script to read aloud

“Describe what happened before explaining why. Identify the prediction and its assumptions. Compare the distribution with the mean. Propose two compatible mechanisms. Finally, state which treatment or additional evidence could distinguish them.” The script keeps discussion in a common sequence across families.

8.10 Assessment bank with solutions

Exercise 1. List actions, information, and payoffs. **Solution:** reconstruct A transfers or takes ECU; then B may return, do nothing, or spend to reduce A’s payoff without adding information unavailable to the participant.

Exercise 2. Derive the material benchmark. **Solution:** begin from if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response and name at least two assumptions. For an interactive game, state best responses; for an individual task, state the decision rule.

Exercise 3. The report shows 40 percent. **Solution:** it cannot be interpreted without numerator, denominator, exclusions, and unit. Eligible people and completed decisions are alternative denominators.

Exercise 4. The mean matches the prediction. **Solution:** inspect the distribution. A correct mean can combine extremes, offsetting errors, or different strategies. Agreement does not identify reasoning.

Exercise 5. Select two mechanisms from positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion. **Solution:** design a condition changing one prediction but not the other, with an outcome from initial action; transfer or taking; B's response; punishment expenditure; return; payoffs and the slope between treatment received and response.

Exercise 6. Compare treatments of different sizes. **Solution:** report counts and shares, preserve the independent unit, and do not compensate for a small group by multiplying rounds.

Exercise 7. Mean differences are absent. **Solution:** inspect dispersion, tails, compliance, and comprehension; define a relevant difference. A broad null does not establish equivalence.

Exercise 8. Propose a figure. **Solution:** use histograms or dots for distributions, lines for rounds, separate bars for roles, and bivariate plots when a response depends on a prior action.

Exercise 9. Explain a variant from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments. **Solution:** identify what changes, what remains constant, predicted direction, and an interpretive threat.

Exercise 10. Transfer to conflict, sanctions, employment relationships, and the design of redress mechanisms. **Solution:** describe the common mechanism and two institutional differences. Do not claim that one session determines policy.

Exercise 11. Write a three-sentence conclusion. **Solution:** observation with denominator; compatible mechanisms; evidence needed to distinguish them.

Exercise 12. Design a replication. **Solution:** preserve parameters, record assignment, announce the primary measure, set exclusions, and archive the export.

A twelve-point rubric awards one point for each correct component. For a short assignment use Exercises 2, 3, 5, and 11. For a project use all twelve and request a reproducible figure.

8.11 Advanced seminar: from evidence to mechanism

Divide the class into four teams: benchmark model, alternative preferences or beliefs, institutions, and identification critique. Each interprets the same report from its assigned role. The first derives if only own money matters, B does not pay to reward or punish and A chooses the action maximizing own payoff while anticipating that response; the second uses positive and negative reciprocity, intentions, inequality aversion, retribution, norms, and emotion; the third selects a variant from nonbinding agreement; random first action; contingent-response method; equal or unequal endowments; the fourth identifies missing evidence.

In a replication round, every team writes a quantitative prediction and a condition that could refute it. It exchanges the proposal with another team, which audits unit, denominator, and manipulation. A useful explanation does not merely accommodate past outcomes; it risks a prediction about new evidence.

End with a one-page memo containing question, benchmark, descriptive finding, two mechanisms, discriminating design, application to conflict, sanctions, employment relationships, and the design of redress mechanisms, and limitation. Grade causal clarity, technical correctness, use of evidence, and inferential restraint.

For a quantitative extension, export data and reproduce three figures: individual distribution, aggregate by independent unit, and treatment comparison. All three require titles, denominators,

and exclusion notes. Compare how the narrative changes when the correct unit is used.

An ethics extension asks which decisions should remain private, when an incentive is proportionate, and how to communicate results without turning group patterns into personal judgments. The answer should separate participant protection, instructional integrity, and analytical transparency.

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