



Instructor guide to Feedback frequency and investment

Laboratory implementation, theoretical foundations,
experimental evidence, and variants

Behavioral and Experimental Economics Research Lab
Department of Economics



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

How to use this guide

This guide supports the preparation, implementation, and classroom discussion of the Feedback frequency and investment family 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.

Contents

How to use this guide	i
1 Preparing a class on investment and evaluation	1
1.1 Learning objectives and scope	1
1.2 Family at a glance and curricular choice	2
1.3 Access, rooms and session preparation	2
2 Budgets, paths and payments	6
2.1 Wealth in one period	6
2.2 A completely worked episode	7
2.3 Commitment, confirmation and settlement	8
3 Theory and the scope of predictions	9
3.1 Risk, losses and reference points	9
3.2 Evaluating separately or evaluating a sum	10
3.3 Information, flexibility and expected utility	10
3.4 Finite horizons and limits of the mechanism	11
4 Basic contrasts and extensions	12
4.1 Three calendars with common revision	12
4.2 Separating revision and feedback frequency	12
4.3 Statement content and presentation	13
4.4 Guaranteed additional payment and reference change	14
4.5 Small gains and infrequent losses	14
4.6 Voluntary consultation and alternative horizons	15
5 Journey, report and data	20
5.1 Screens and activity closure	20
5.2 Progress and controlled report disclosure	21
5.3 Payments, negative statements and monetary reference	21
5.4 Downloads, privacy and file interpretation	22
6 Class plan and worked exercises	32
6.1 A fifty-minute lesson	32
6.2 Exercises with solutions and interpretation criteria	33
6.3 Common problems and closure checklist	34

List of Figures

1.1	Institutional entry through CLASE.	3
1.2	Teaching catalogue and topic search.	4
1.3	Demo contains only this family's configurations.	4
1.4	Four rooms separate language and edition.	5
1.5	The basic room initially selects a basic option in its language.	5
4.1	A committed confirmation retains investment and does not disclose the pending block.	16
4.2	Detailed statements release period rows at the block end.	17
4.3	Cumulative history retains its evaluation intervals.	17
4.4	The statement presents wealth under the same payment as change presentation.	18
4.5	Instructions state the additional payment and exclude it from investable funds.	18
4.6	Instructions use the selected risk profile's probabilities and returns.	19
4.7	Voluntary consultation requires an explicit choice.	19
5.1	Institutional welcome and individual-work rules.	23
5.2	Effective budget, ECU, commitment and accumulated payment.	24
5.3	Comprehension checks rules without recommending investment.	25
5.4	Errors explain corrections and retain other responses.	26
5.5	A new choice can be edited before confirmation.	27
5.6	The statement discloses only the permitted interval.	27
5.7	The final page confirms closure and permits episode reconstruction.	28
5.8	The report shows progress and withholds aggregates.	28
5.9	A completed session requires deliberate revelation.	29
5.10	Units and denominators distinguish people, choices and periods.	30
5.11	Each participant appears once in the histogram.	31
5.12	The trajectory shows average exposure and new choices.	31

Preparing a class on investment and evaluation

1.1 Learning objectives and scope

An investment sequence can appear attractive when several periods are evaluated together and unpleasant when losses are viewed separately. This activity discusses that difference while initially holding both financial opportunities and investment-revision frequency constant. Each student controls a fresh budget in each period, confirms the application of a choice, and receives outcomes on an announced calendar. The class subsequently examines how that calendar relates to chosen investment and experienced losses.

The teaching question is not whether to purchase a real financial product. It is how to distinguish a payoff distribution, a decision rule and a presentation of the same path. Participants know the probabilities and may invest any permitted amount. Their outcomes do not depend on anyone else's choices. There are no market prices, negotiations, partners or waiting pages. The activity belongs to the Finance set because it examines evaluation of an investment sequence; it does not replace an asset market or a portfolio-diversification exercise.

Students should finish able to reconstruct period wealth, add an episode without reinvesting its proceeds, distinguish feedback from revision frequency, and explain why a descriptive investment difference does not itself identify loss aversion. They should also recognize a reference point, distinguish risk from a realized loss, and read the report without treating one person's periods as independent observations. These objectives suit behavioural finance, decisions under risk and introductory experimental economics. A successful discussion connects the institution students experienced to a precise economic question.

Three basic modes share nine periods and an investment amount committed for three periods. Only disclosure timing changes: after each period, after every three-period group, or at the end of the entire episode. Twenty extensions separate flexibility, statement content, presentation, additional payments, risk profiles, voluntary consultation and horizon. The menu is a resource for course design rather than a syllabus for one class. Select a main contrast and a control that makes its interpretation possible. Additional conditions can be introduced in a later lesson after the core accounting is understood.

For the instructor

Start by comparing per-period and three-period aggregate feedback while holding revision every three periods constant. Frequent and flexible versus aggregated and committed is a compound institutional contrast. It must not be described as an isolated information effect.

1.2 Family at a glance and curricular choice

Purpose	Connect evaluation, commitment and investment under risk.
Experimental unit	Individual, without matching or waiting.
Basic edition	Nine periods; revise every three; three feedback calendars.
Extended edition	Reference and twenty contrasts in institutions, presentation and opportunities.
Decision	An investment between zero and the budget, applied to the announced block.
Payoff	Sum of wealth across all periods, without reinvestment.
Topics	evaluation frequency; loss aversion; investment commitment; temporal framing; feedback; investment horizon.
JEL	A22, C91, D81, G11, G41.
Suggested duration	15–25 minutes for the activity; 45–60 minutes including discussion.
Participants	Any positive count; no pair requirement.

The reference endowment is 100 ECU per period. ECU means Experimental Currency Units. No conversion into pesos, dollars or another currency is announced. If an instructor arranges real incentives, a separate consistent rule must be communicated beforehand under the laboratory's approval. A point amount is not itself a promise of cash payment. The application retains the budgets of individual periods and accounts for them in the final sum. Experimental units, terminal points and an external incentive arrangement must remain conceptually distinct.

A session accepts any positive participant count. The demonstration uses four and checks also cover odd counts. Each person can proceed without waiting for anyone else. To compare conditions, assign students before distributing links and retain that assignment rule. Creating two instructor-selected sessions does not produce random assignment automatically. Preparing a between-group contrast is a design decision to record outside the participant journey. With very small classes, use the comparison for mechanism discussion rather than for a claim about a population effect.

Forty-eight configurations are divided equally between Spanish and English. Each language has three basic modes and twenty-one extended options including the reference. All share calculations, data structure and validation mechanisms. Language is set when a session is created. Extended does not necessarily mean more difficult: some conditions simplify choice by holding investment fixed for the whole episode. The relevant difference is the question made possible by each institution. Choose a descriptive configuration title and check its calendar before inviting students.

1.3 Access, rooms and session preparation

Start at <https://beer-lab.org/> and select **CLASE** in the top navigation to reach <https://teaching.beer-lab.org/>. The catalogue supports searches by title, topic or JEL code. Evaluation frequency, losses and feedback are relevant search terms for this family. Catalogue language and session language are separate selections, so confirm the configuration title before creating a session. If the card is not yet available, consult laboratory coordination about this delivery's publication status. A locally prepared package does not become a public website automatically.

Proposed routes are <https://myopicloss.beer-lab.org/demo> for demonstrations and <https://myopicloss.beer-lab.org/rooms> for rooms. Basic rooms are https://myopicloss.beer-lab.org/room/evaluacion_es and https://myopicloss.beer-lab.org/room/evaluation_en. Extended rooms are https://myopicloss.beer-lab.org/room/evaluacion_extendida and

https://myopicloss.beer-lab.org/room/evaluation_extended. Public operation requires publication and DNS. The delivered local instance is tested at <http://localhost:8095/demo> on this computer.

Demo must show only this family's forty-eight configurations. Rooms must show four rooms. Each basic room offers three options in its own language and initially selects a basic configuration; each extended room offers twenty-one. Isolation includes a separate instance and database so Sessions and Data also belong to this family. A filtered option list alone does not establish isolation of historical data. Check configuration counts and the session list when preparing the lesson.

Before class, create a rehearsal session and inspect instructions, comprehension, a new choice and a confirmation of a committed amount. Verify the effective budget and the first disclosure date. For matched comparisons, the technical configuration supports a private comparison seed. The same seed and participant index produce the same path when the lottery is unchanged. This is a control tool rather than a signal to participants or an assignment rule. Without that option, each person receives independently generated draws.

Distinguish the shared room link from the individual link that continues one person's private journey. The instructor report requires authentication. Never project individual links or identifiable downloads in the discussion. Retain existing sessions when restarting the instance. An old participant link can fail after a database has been replaced; refreshing the programme and deleting its data are different operations. Distribute new classroom links from the intended session after completing your rehearsal.

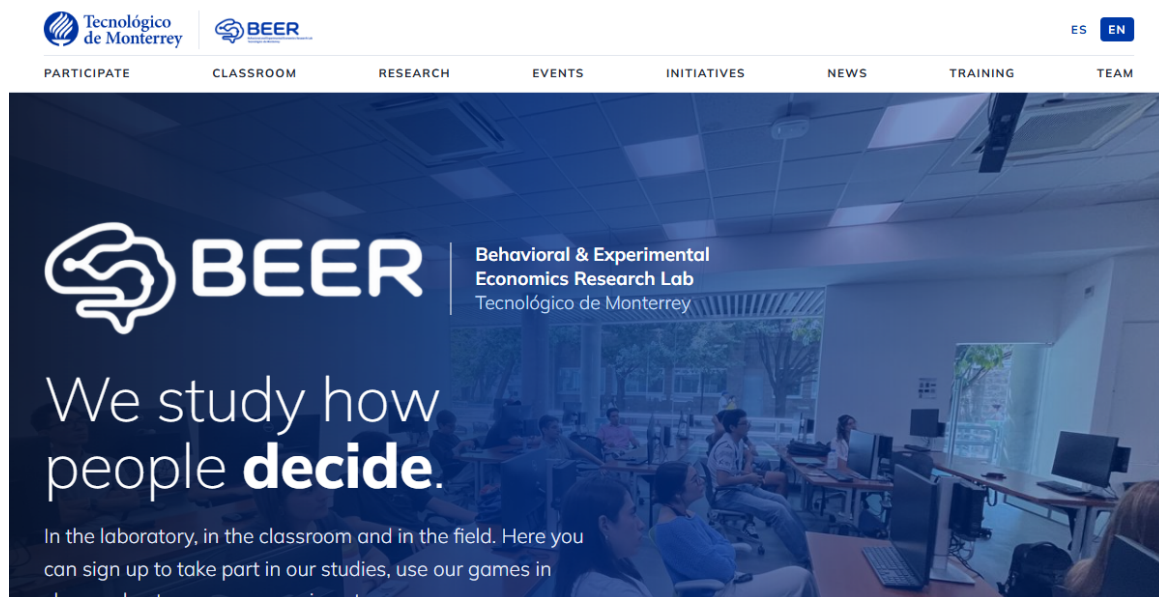


Figure 1.1: Institutional entry through CLASE.

INSTRUCTORS AND STUDENTS

Classroom experiments

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

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

Search: 19 of 130 games

Alternating-Offers Bargaining

Teach sequential bargaining, backward induction, subgame perfection, time discounting, delay, bargaining power, and behavioral departures. Basic: One negotiation, ten with a fixed partner, or ten with reassignment; at most five proposals and discount factors of 0.90 for

Bargaining and Conflict

Study allocation and costly conflict under public information. Basic: One encounter; ten with a fixed pair; ten with reassigned pairs. Extended: Baseline and eleven extensions concerning probabilities, costs, communication, protocol, divisibility and risk.

Figure 1.2: Teaching catalogue and topic search.

oTree Demo Sessions Rooms Data Server Check Logout

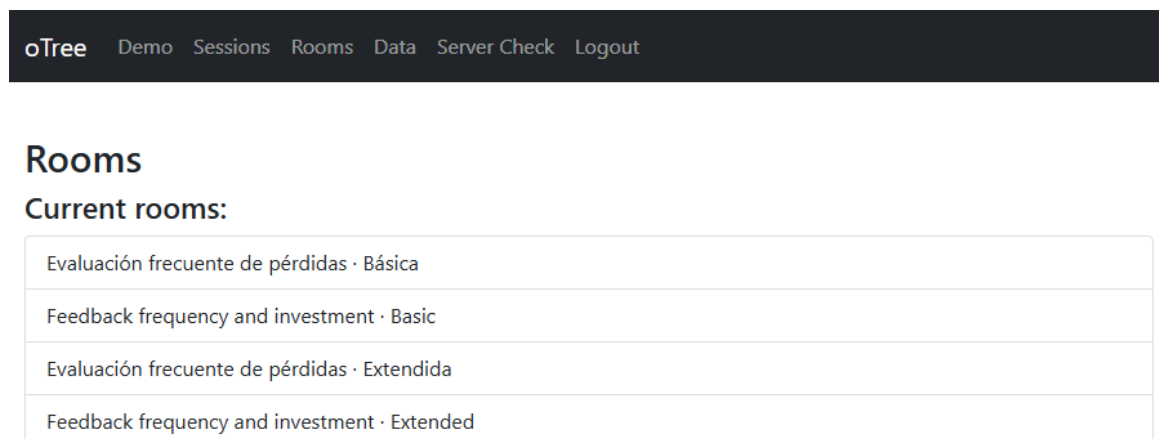
Demo

Evaluación frecuente de pérdidas · Básica · ES · Resultado por periodo; revisión cada tres
Evaluación frecuente de pérdidas · Básica · ES · Resultado agregado cada tres; revisión cada tres
Evaluación frecuente de pérdidas · Básica · ES · Resultado al final; revisión cada tres
Evaluación frecuente de pérdidas · Extendida · ES · Resultado por periodo; revisión cada tres
Evaluación frecuente de pérdidas · Extendida · ES · Resultado por periodo; revisión en cada periodo
Evaluación frecuente de pérdidas · Extendida · ES · Resultado agregado cada tres; revisión en cada periodo
Evaluación frecuente de pérdidas · Extendida · ES · Resultado al final; revisión en cada periodo
Evaluación frecuente de pérdidas · Extendida · ES · Resultado por periodo; inversión fija
Evaluación frecuente de pérdidas · Extendida · ES · Resultado agregado cada tres; inversión fija

Evaluación frecuente de pérdidas / Feedback frequency and investment — BEER Lab

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

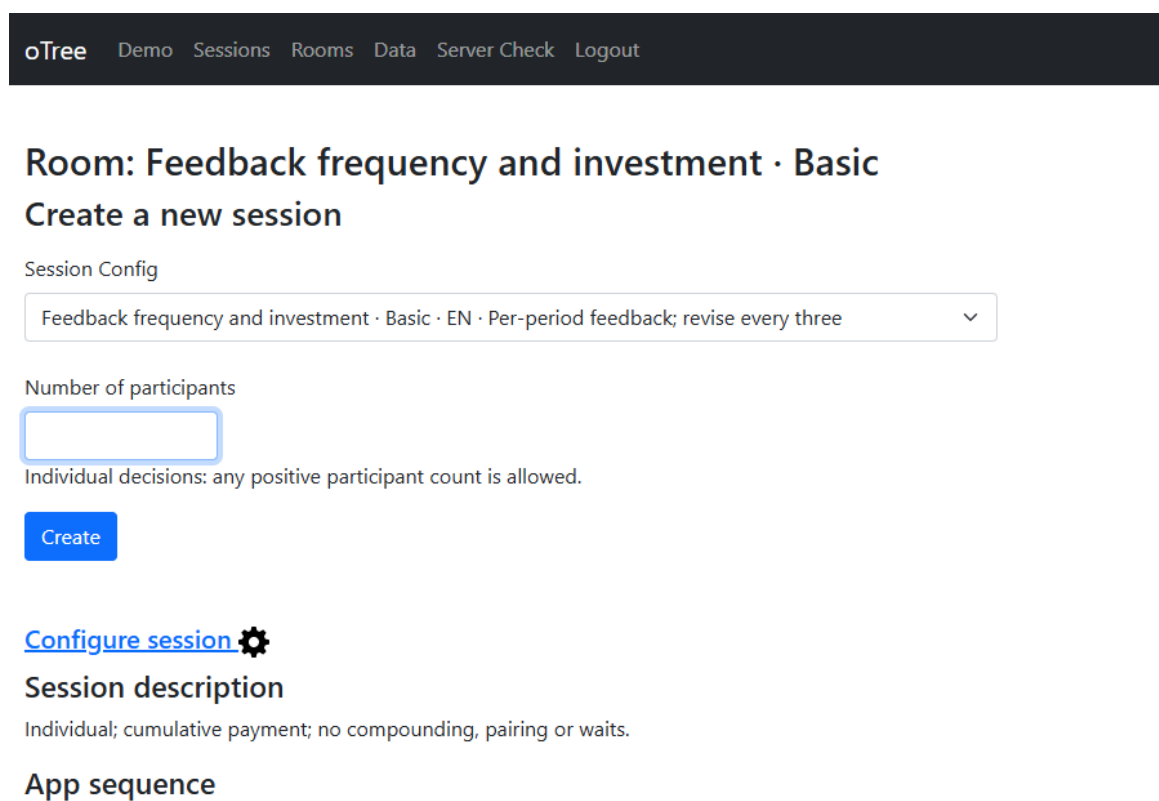
Figure 1.3: Demo contains only this family's configurations.



The screenshot shows the oTree interface with a dark navigation bar at the top containing links: oTree, Demo, Sessions, Rooms, Data, Server Check, and Logout. Below the navigation bar, the heading 'Rooms' is displayed. Underneath, the text 'Current rooms:' is followed by a table listing four rooms. The rooms are arranged in a 2x2 grid, alternating between Spanish and English descriptions.

Evaluación frecuente de pérdidas · Básica
Feedback frequency and investment · Basic
Evaluación frecuente de pérdidas · Extendida
Feedback frequency and investment · Extended

Figure 1.4: Four rooms separate language and edition.



The screenshot shows the oTree interface for configuring a session. The navigation bar is the same as in Figure 1.4. The main heading is 'Room: Feedback frequency and investment · Basic'. Below this is the subheading 'Create a new session'. The 'Session Config' section features a dropdown menu with the selected option 'Feedback frequency and investment · Basic · EN · Per-period feedback; revise every three'. Below the dropdown is a text input field for 'Number of participants', which is currently empty. A note below the input field states: 'Individual decisions: any positive participant count is allowed.' A blue 'Create' button is positioned below the input field. At the bottom, there is a link 'Configure session' with a gear icon, followed by the section 'Session description' with the text 'Individual; cumulative payment; no compounding, pairing or waits.' and the section 'App sequence'.

oTree Demo Sessions Rooms Data Server Check Logout

Room: Feedback frequency and investment · Basic

Create a new session

Session Config

Feedback frequency and investment · Basic · EN · Per-period feedback; revise every three

Number of participants

Individual decisions: any positive participant count is allowed.

Create

[Configure session](#) ⚙️

Session description

Individual; cumulative payment; no compounding, pairing or waits.

App sequence

Figure 1.5: The basic room initially selects a basic option in its language.

Budgets, paths and payments

2.1 Wealth in one period

Each period's fresh budget is divided between investment and an amount kept unchanged. Write W for the budget and x_t for the investment applied to period t . The retained amount is $W - x_t$. Borrowing is unavailable: $0 \leq x_t \leq W$. In the basic lottery, success returns 3.5 ECU for each invested ECU, including principal. Without success, the investment returns zero. Success probability is exactly one third rather than a rounded decimal used to generate draws.

Let $I_t = 1$ denote success and $I_t = 0$ its absence. Period wealth is

$$z_t = W - x_t + 3.5x_t I_t.$$

With $W = 100$ and $x_t = 50$, success gives 50 retained ECU plus an investment return of 175, so $z_t = 225$. Without success, only the retained 50 ECU remain. Change from the budget is $g_t = z_t - W$, giving possible changes of +125 and -50. A loss of 50 does not mean owing 50. It means finishing 50 below the reference budget. Positive terminal wealth and a negative change are therefore entirely compatible.

Net investment return is $+2.5x_t$ on success and $-x_t$ without success. Gross returns and gains are easily confused here. Adding $W + 3.5x_t$ after success counts invested principal twice. Subtracting x_t again after computing $W - x_t$ without success deducts the loss twice. Reconstruct the retained and invested components first, then calculate the change. The same method continues to work for other risk profiles and for a guaranteed additional payment.

Before the draw, expected wealth without the extra payment is

$$E[z_t] = W + \frac{1}{3}(2.5x_t) - \frac{2}{3}x_t = W + \frac{x_t}{6}.$$

At investment 50, expected wealth is approximately 108.33 ECU. That amount is not a third possible outcome: the period ends at either 225 or 50. Expectation summarizes a distribution rather than forecasting one person's realization. Even when a class average approaches that value, the next draw's probability does not change. Separating expected outcomes from available outcomes prevents an attractive average from being mistaken for a guarantee.

What participants will see

Participants see the effective budget, permitted investment, returns with and without success and a worked example. The decision page neither recommends an investment nor displays an unpublished state.

2.2 A completely worked episode

Consider nine periods arranged in three commitment blocks. A participant chooses 50 ECU at the first block's start, zero at the second and 100 at the third. The first block realizes no success, success and no success in that order. Draws in the second block do not affect wealth because investment is zero. The third block realizes two successes followed by no success. The table reconstructs the accounting without suggesting that this one path represents every possible realization.

Period	Investment	Retained	Risky return	Wealth
1	50	50	0	50
2	50	50	175	225
3	50	50	0	50
4	0	100	0	100
5	0	100	0	100
6	0	100	0	100
7	100	0	350	350
8	100	0	350	350
9	100	0	0	0

The first block pays 325 ECU, the second 300 and the third 700. Total payment is $325 + 300 + 700 = 1325$ ECU. Reference budgets sum to $9 \times 100 = 900$, giving cumulative change $1325 - 900 = 425$. Average investment per period is $(3 \times 50 + 3 \times 0 + 3 \times 100)/9 = 50$ ECU. An average investment of 50% does not mean that 50 ECU were invested in every period. It summarizes a path of different exposures. Recover the underlying sequence whenever an average appears to describe a constant action.

Now compare two calendars while retaining exactly those choices and draws. Per-period feedback shows $-50, +125, -50$ in the first block. Aggregate feedback shows only $+25$ at its end. Block wealth is 325 in both cases and investment stayed fixed throughout its three periods. Available information changed, not the episode's money. Before the third period, the aggregate condition must display neither a cumulative balance nor a chart from which the first outcomes could be reconstructed. A convenient visual feature can otherwise change the intended information treatment.

In the third block, frequent feedback shows $+250, +250, -100$, while aggregation shows $+400$. The same last period can be experienced as a local loss within a positive block. Ask which reference and interval are being discussed. This comparison does not require attributing a particular emotion to participants: the programme records disclosed information and monetary changes, not feelings. The interpretive distinction is useful even if the class displays no difference in investment across calendars.

Feedback script

Ask: "Does the second period's budget come from earlier earnings or from a fresh allocation? Why does a block with two negative periods finish above 300? Which number was available in each condition before the next block was chosen?" Reconstruct the answers before discussing preferences.

2.3 Commitment, confirmation and settlement

The application separates a new investment choice from period confirmation. In the core, new choices occur in periods 1, 4 and 7. The first choice also applies to periods 2 and 3; the fourth applies to the fifth and sixth. Confirming a later period does not create a revision opportunity. Accordingly, the report distinguishes nine confirmed periods from three new decisions per participant. No partner or group determines this rule, and one student's pace does not delay another's.

Budgets are renewed while commitment preserves the chosen amount. Losing the entire investment in one period does not shrink the next period's budget, and winning does not enlarge it. This keeps opportunities comparable after different histories. With compounding, equally willing investors might choose different monetary amounts merely because previous outcomes left them with different resources. Here history changes available information and possibly evaluation while the investment constraint remains announced and constant. This is a deliberate simplification for teaching rather than a model of an actual reinvested portfolio.

Outcomes settle when each period is confirmed. Investment has already been bound for later periods, but those periods do not count as complete until confirmation. The final period calculates cumulative payment and records it only once. The activity ends after acknowledgement of the last permitted statement, or after declining the final voluntary consultation. This distinction explains a report with zero pending periods but fewer people at the end. Confirmation, feedback acknowledgement and accounting completion are related events rather than identical measures of progress.

Amounts allow at most two decimal places. Each period wealth is rounded once to cents, and final payment adds those recorded amounts. Theoretical expectations may retain more decimals for explanation. At 15% or 30% gains, cent rounding can slightly shift the amount that maximizes expected monetary payment. The report computes its reference under the same bounds and rounding. A few cents' difference should not be interpreted as a substantial preference. The reference is an accounting comparison, not a suggested answer to the investment decision.

Draws are independent with known probabilities. An earlier loss does not raise the next success probability. A private comparison seed reproduces paths for matched contrasts without revealing future draws to participants. Keep that seed outside participant materials. Matching sequences controls realized luck between conditions; it does not control group composition, expectations induced by instructions or order effects. Those issues still require an appropriate assignment procedure and a careful class discussion.

Theory and the scope of predictions

3.1 Risk, losses and reference points

Risk describes a distribution of possible outcomes, whereas a loss is a negative outcome relative to a reference. An investment can be risky without producing a loss in its observed realization. It can also end with positive wealth while producing a loss relative to the budget. Investing 50 in the reference lottery leaves wealth of either 50 or 225. Wealth is never negative, but change from 100 can be. Risk, loss and an unsatisfactory outcome should therefore not be used interchangeably.

Risk aversion is usually represented through concavity of utility over wealth. Someone may prefer a certain amount to a lottery with the same expected wealth. Loss aversion instead concerns the relative weight assigned to negative and positive changes around a reference point. These are distinct properties. A model can include concavity, a reference point and loss weights simultaneously. The activity does not estimate a complete utility function or distinguish all these features from a single investment choice.

Illustrate the second idea with a simple function over change g :

$$v(g) = \begin{cases} g, & g \geq 0, \\ \lambda g, & g < 0, \end{cases} \quad \lambda \geq 1.$$

The parameter λ multiplies a loss's weight. At $\lambda = 1.5$, a change of -50 has illustrative value -75 , while $+50$ retains value 50. These are neither additional ECU charged by the application nor observed point scores. They are an instructor-proposed representation used to derive a conditional prediction. Always distinguish modelled evaluation from recorded monetary accounting.

Budget W is the programme's accounting reference. Participants are not asked to state a psychological reference point. They may think about preserving everything, achieving expected gains, recovering an earlier loss or reaching a personal target. The count of negative statements consequently measures monetary information under the announced reference rather than emotional intensity or a loss-aversion parameter. Investigating declared beliefs or reference points would require a separate design and explicit elicitation. Do not reconstruct them as though they had already been observed.

Theoretical foundation

Benartzi and Thaler combine loss sensitivity and frequent evaluation to explain investment decisions (Benartzi and Thaler, 1995). This family is a teaching adaptation with explicit budgets and calendars. An observed preference does not establish that this mechanism is the only possible explanation.

3.2 Evaluating separately or evaluating a sum

Narrow evaluation values each change separately; broad evaluation values change over a larger interval. Under the preceding function, $E[v(g_1) + v(g_2) + v(g_3)]$ and $E[v(g_1 + g_2 + g_3)]$ are different operations. Gains can offset losses before the loss weight is applied in the second calculation. Summation does not change money; it changes the object being evaluated. This distinction gives a concrete interpretation to the term bracketing.

For constant positive investment x in the basic lottery, one-period expected value is

$$E[v(g_t)] = \frac{1}{3}(2.5x) - \frac{2}{3}\lambda x = \frac{x}{3}(2.5 - 2\lambda).$$

It is positive when $\lambda < 1.25$. With $\lambda = 1.5$ and $x = 50$, it is approximately -8.33 . Expected wealth nevertheless remains 108.33. Negative modelled evaluation can coexist with positive monetary expectation because the two criteria answer different questions. Participant points must not be changed to match the model's value.

Across three independent periods at the same x , the success count K is binomial. Block change is $G = x(3.5K - 3)$, with these possibilities:

Successes	Probability	Change at $x = 50$
0	8/27	-150
1	12/27	+25
2	6/27	+200
3	1/27	+375

Aggregate expected value is $E[v(G)] = x(37.5 - 24\lambda)/27$, positive for $\lambda < 1.5625$. At $\lambda = 1.5$ and investment 50, it is approximately $+2.78$. A model that disliked one period now values the combined opportunity positively. The interval $1.25 < \lambda < 1.5625$ states exactly which assumption generates this difference. It is a conditional illustration, not an estimated parameter interval for the class.

Negative-change probability falls from 2/3 in one period to 8/27 in this three-period block when $x > 0$ is constant and no additional payment is present. Do not apply that number to zero investment, varying amounts or another lottery. At zero investment change is zero; with varying investments a success count alone cannot determine the sum's sign. Common three-period commitment makes the example convenient because investment is held constant within each block. The assumption should be stated rather than silently carried into every extension.

Checkpoint

The table's probabilities sum to one. Expected block change is 25 ECU and expected block wealth is 325. Verify these quantities before applying an evaluation function or interpreting the instructor report.

3.3 Information, flexibility and expected utility

A clean contrast is not established merely by condition titles. In the basic comparison of per-period and three-period aggregate feedback, both conditions revise in periods 1, 4 and 7. At a new choice, both know the preceding block's total wealth. With matched previous draws and investment, that total also coincides. Frequent feedback additionally supplies the decomposition, which does not

predict independent future draws. The contrast can therefore focus on within-block evaluation and experience.

Expected utility over terminal wealth uses $E[u(S)]$, where S is the complete payment. With the same opportunities, known prior total and preferences over that wealth, reorganizing equivalent information does not change the financial problem at revision. This does not require everyone to invest one hundred. Concavity can justify a lower amount. The reference identifies the comparable financial elements and the changed evaluation experience rather than prescribing a universal choice.

Terminal-only feedback requires a different interpretation. Even with revision every three periods, a person choosing in period four does not know earlier earnings that another person knows. That information may matter for preferences over accumulated wealth. The issue also arises with revision every period: frequent feedback permits adaptation to a history that an aggregate condition has not yet disclosed. A difference in those comparisons must consequently not be automatically interpreted as a bias or a general rejection of expected utility.

Classic evidence motivates both the mechanism and institutional separation. Gneezy and Potters studied a contrast combining evaluation and adjustment ([Gneezy and Potters, 1997](#)); Bellemare and coauthors separated information from flexibility and found that changing information can suffice to affect investment ([Bellemare et al., 2005](#)). These contributions justify a factorial design, not attributing a published effect size to this class. The application does not reproduce original participants, real incentive arrangements or every laboratory detail. Describe it as an adaptation and identify its explicit controls.

Attention

Do not equate investing less with being more irrational. Choices can reflect risk preferences, different references, uncertainty about prior wealth, distrust of probabilities or incomplete comprehension. Compare opportunities and information before attributing a mechanism.

3.4 Finite horizons and limits of the mechanism

Aggregation does not ensure that loss probability decreases with every extension of the horizon. For the basic lottery at constant investment, an n -period block has change $G_n = x(3.5K - n)$, where K is binomial with parameters n and $1/3$. The sign changes at an integer success threshold. In three periods only zero successes produces a loss; in six, one success does too. Negative-change probability is therefore higher in six than in three. The one-versus-three illustration does not establish monotonicity at every finite horizon.

A law of large numbers describes averages under specified assumptions as opportunities accumulate. It does not turn a short sequence into a guaranteed gain. Nor does adding periods necessarily eliminate the monetary dispersion of a total. Distinguish loss probability, dispersion of an average, dispersion of a sum and subjective evaluation. These are different quantities that may move in different directions. The distinction is especially valuable when students use the word diversification without specifying what is being compared.

Langer and Weber show that narrow evaluation has no universal directional effect when other prospect-theory components and risk profiles are considered ([Langer and Weber, 2005](#)). Rare-loss conditions discuss that boundary. Small gains and large infrequent losses have a different asymmetry from the basic lottery. Keeping expected return positive does not preserve the entire distribution, so not every presentation should be expected to produce the simple example's pattern. Classroom discussion should make the changed distribution visible before considering behavioural interpretations.

Basic contrasts and extensions

4.1 Three calendars with common revision

Three basic modes retain nine periods, the same lottery and revision every three. The first releases outcomes after each confirmation. A person chooses in the first period, sees an outcome, confirms the same amount twice and chooses again in the fourth. The second confirms those three periods without individual outcomes and receives their sum before the fourth. Both reach a new choice knowing the preceding block's total. This is the recommended initial contrast for isolating within-block evaluation experience.

The third mode discloses outcomes only after period nine. Choices still occur in periods 1, 4 and 7, but prior realized wealth is unknown at the last two dates. It is not simply another way to add known numbers: information before some decisions changes. Lower investment could reflect uncertainty about prior wealth, anticipated evaluation or other preferences. An interpretation must acknowledge the institutional difference rather than treat every calendar comparison as the same causal question.

Compare mean participant-average investment, its median and the histogram. The mean can move because many participants change slightly or because a few change substantially. Inspect period evolution as well. Each person's amount stays constant within a commitment block, while the class mean may change at the next block's start. New-choice counts must show three per participant in all basic modes. A count of nine would confuse application of a choice with an opportunity to revise it.

For useful feedback, reconstruct one common path under both calendars. Evaluation experiments motivate the comparison (Gneezy and Potters, 1997; Bellemare et al., 2005), but favourable realized earnings in the aggregate group do not prove a mechanism. Comparable seeds and parameters help separate choice from luck. Ask when action was possible and what was known before asking which interpretation of risk is consistent with the investment difference. An individual psychological label should never be assigned solely from a participant's average amount.

4.2 Separating revision and feedback frequency

Six extensions complete a factorial alongside the three basic modes. Three permit a new choice in every period, paired with frequent, three-period aggregate or terminal feedback. Three others fix a single investment throughout nine periods under those same calendars. Together with revision every three, this yields nine institutional combinations. The factorial makes explicit dimensions that a compound contrast could conceal.

Revision	Per-period feedback	Aggregate every three	Terminal feedback
Every period	Flexible, frequent	Flexible, aggregate	Flexible, terminal
Every three	Basic frequent	Basic aggregate	Basic terminal
One choice	Fixed, frequent	Fixed, aggregate	Fixed, terminal

Every-period revision creates nine new decisions. Adaptation after gains or losses is observable, but reaction must be distinguished from correct learning. Future draws remain independent with announced probabilities. A loss does not make the next success more likely. Information about already earned wealth may nevertheless legitimately affect preferences over total payment. Not every response to history is a reasoning fallacy, and the report cannot identify the belief that motivated an amount.

With a single initial choice, all subsequent amounts are committed. Feedback cannot revise an investment already fixed; any relationship with the initial amount operates through anticipation of episode evaluation. A changing exposure curve in a fixed condition would indicate a journey problem rather than an intended opportunity. The report must count one new choice per participant despite nine confirmations and potentially several acknowledged statements. This condition separates the experience of outcomes from actual adjustment opportunities.

Teach commitment by first comparing every-period and every-three revision at frequent feedback. Then compare calendars while keeping revision every three. Finally, present frequent and flexible versus aggregated and committed as an institutional package. Bellemare and coauthors provide evidence on separating information and adjustment; Fellner and Sutter examine both institutions ([Bellemare et al., 2005](#); [Fellner and Sutter, 2009](#)). These studies support the question rather than a universal numerical prediction for each classroom cell.

Participant-average investment provides a comparable histogram unit: every person appears once. New-decision counts change and must not be treated as subject counts. Someone choosing 50 once and someone choosing 50 nine times share average exposure but face different adaptation opportunities. Ask what further variation would distinguish commitment, received information and their interaction. This makes the factorial a reasoning tool rather than a collection of configuration names.

4.3 Statement content and presentation

The detailed-statement extension retains revision every three and disclosure at block ends. Unlike aggregation, it supplies one row per period within the block. Disclosure timing stays constant while decomposition becomes available. Compare detailed and aggregate statements every three to ask whether separate figures matter even when received simultaneously. A comparison only against per-period feedback would also change publication timing and answer a different question.

The cumulative extension keeps the every-three calendar but displays the sum from the first period through the current end. Its first statement equals first-block change; its second covers six periods and its third nine. A negative new block may coexist with a positive cumulative result. Participants could reconstruct the new block by subtracting statements, but the main representation does not do this for them. This is presentation of obtainable information rather than a change in payment or a hidden transfer.

Per-period wealth presentation retains frequent feedback and revision every three. The statement displays terminal interval wealth rather than change from reference budgets. At investment 50, an unsuccessful period displays wealth 50, while the usual presentation displays change -50 . Opportunities and payments coincide. The budget reference remains available, making the

conversion verifiable. A presentation effect could be consistent with attention or framing without establishing a person's psychological reference point.

These contrasts adapt the distinction between evaluation and representation motivating myopic-loss-aversion research (Benartzi and Thaler, 1995; Thaler et al., 1997). The cited papers are not credited with empirical effects of these exact screens. Reconstruct equivalent numbers and specify what was added or rearranged in every comparison. If students cannot perform the conversion, investment differences could reflect understanding or calculation burden as well as loss evaluation. A useful debriefing checks that accounting equivalence is understood before discussing behavioural mechanisms.

The report counts negative statements using total change in the disclosed interval, including in the detailed condition. It does not count each detail row as another participant. Cumulative intervals overlap: an early period may contribute to multiple later statements. The negative-statement rate therefore describes an information experience rather than an independently estimated loss probability. Inspect exposure distributions and period evolution before interpreting that measure across presentation conditions.

4.4 Guaranteed additional payment and reference change

Two extensions add a guaranteed 100 ECU in each period, scaled to the effective budget when the endowment changes. One discloses every period and the other every three; both retain revision every three. Wealth becomes $z_t = W + B - x_t + (1 + a)x_t I_t$, with $B = W$ and $a = 2.5$. The additional payment cannot be invested: the constraint remains $0 \leq x_t \leq W$. Instructions state this distinction so a guaranteed receipt is not mistaken for available capital.

At investment 50 and budget 100, wealth is 325 on success and 150 without success. Change from the original budget is +225 or +50. At investment 100, an unsuccessful period yields wealth 100 and change zero. Changes from W are nonnegative by construction. A participant could instead use $W + B$ as a reference and still experience a loss relative to that amount. The programme neither imposes nor measures the psychological reference.

Comparing these two extensions holds the extra payment constant and examines feedback frequency in the changed outcome environment. Comparing either against a no-payment condition also changes expected wealth, minimum wealth and the accounting reference. Evidence concerning opportunities without losses motivates the contrast (Thaler et al., 1997); it does not make this a pure word manipulation. Utility over terminal wealth can also respond to the guaranteed transfer. Explicitly state the monetary change when interpreting the comparison.

Check the announced parameter and expected-payment reference in the report. Negative statements relative to W must be absent once everyone finishes, without proving that nobody experienced a loss. Total points are not directly comparable with core points as a skill measure because they include an extra transfer. Ask how interpretation would change under a reference of 100, 200 or a gain target. The exercise separates accounting, opportunities and evaluation without attributing an unobserved reference to participants.

4.5 Small gains and infrequent losses

Four extensions change the risk profile. Two offer success probability 9/10, a 30% net gain on success and complete loss of the invested amount otherwise. The other two retain that probability but reduce the net gain to 15%. Each profile is offered with per-period and three-period aggregate feedback, always with revision every three. These are explicit teaching calibrations exploring

Langer and Weber’s risk-profile question ([Langer and Weber, 2005](#)), not a claim to replicate every detail of their conditions.

At budget 100 and investment 50, the 30% profile pays 115 on success or 50 otherwise, with unrounded expected wealth 108.50. The 15% profile pays 107.50 or 50, with expectation 101.75. Probabilities coincide but opportunities do not. Comparing profiles changes gain and expectation; comparing calendars within a profile preserves both. Begin with the latter contrast when the intended question concerns evaluation rather than return compensation.

A three-period block can lose money despite two successes. At investment 50, two gains of 15 and one loss of 50 give -20 under the 30% profile. Under the 15% profile, two gains of 7.50 and one loss of 50 give -35 . Only three successes make the block positive, with probability $0.9^3 = 0.729$. Success counts therefore mean something different from the basic lottery, where a single success already offsets two failures. Verify amounts before applying an intuition learned from another profile.

Extended prospect-theory research warns that probability weighting and diminishing sensitivity can change the direction of an evaluation effect ([Langer and Weber, 2005](#)). Do not tell participants that they should take more or less risk under a calendar. Observe investment, reconstruct distributions and ask which assumptions make each pattern plausible. A descriptive reversal begins a discussion; it does not estimate probability-weighting parameters. The comparison is valuable precisely because it tests the limits of a simple verbal rule.

Cent rounding deserves an operational note. The exact monetary reference uses 99.97 ECU per period under the 15% calibration and 99.99 under 30%. In the core, a 100-ECU reference is valid and a nearby tie can exist. Small differences arise from rounding payments rather than a preference for retaining cents. The report uses the engine’s rule. For intuition, the unrounded model still explains why monetary expectation increases with investment, while the implemented reference remains feasible and numerically exact.

4.6 Voluntary consultation and alternative horizons

Voluntary consultation retains nine periods and revision every three. After confirming a period, the participant explicitly chooses whether to view its outcome free of charge. Acceptance opens that period’s statement; declining moves to the next confirmation or choice. Omitted outcomes cannot be recovered before the final closure. This gives available information a clear definition and prevents a history panel from indirectly disclosing an outcome that was not consulted.

The mechanism adapts Fellner and Sutter’s question about preferences for information institutions ([Fellner and Sutter, 2009](#)). It includes neither a preselected default nor a consultation price, and does not reproduce their intervention. Effective feedback frequency is selected by the participant. Comparing frequent and infrequent viewers is consequently a selected comparison: they can differ in preferences, attention, comprehension or expectations. Such a correlation must not be interpreted as though the platform had randomized realized consultation frequency.

Inspect consultation counts alongside average exposure. Negative-statement rates use only acknowledged statements as the denominator, not all periods. If nobody consults, the rate is undefined and the report shows a dash rather than zero. Zero negative statements among observed positive statements differs from no information at all. Explicitly declining consultation also differs from missing a response or abandoning the screen. The application requires a choice before continuing, preserving that distinction in its records.

Four extensions change episode length to six or twelve periods, each with per-period or three-period aggregate feedback. They retain revision every three, fresh budgets and the basic lottery. Six periods contain two new choices and reference budgets totalling 600; twelve contain four and

reference budgets totalling 1200. Compare calendars within each horizon and normalize exposure by the budget. Raw cumulative payments across horizons reflect additional opportunities as well as behaviour.

An announced horizon can affect planning, experience and episode expectations. It does not turn the activity into compounded saving or discounted intertemporal choice: participants do not choose consumption now versus a delayed monetary payment. Periods are opportunities within one session. Horizon evidence motivates examining the changes (Fellner and Sutter, 2009), but the application estimates no discount rate and guarantees no monotonic reduction in loss probability at every finite length.

For feedback, ask students to design a contrast preserving one dimension. What can be learned from comparing six and twelve under aggregation? What is lost if probability changes too? How does choosing consultation differ from receiving feedback under an assigned rule? The answers return to the family map: extensions can change information, opportunities, commitment or selection. Retaining that conceptual classification prevents twenty variants from becoming twenty disconnected labels and provides a useful introduction to experimental design.

Investment decision

Period 2 of 9

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

The choice recorded at this block's start stays fixed: 50.00 ECU. Confirm this period to apply it; you may change it in the next block.

Unpublished outcomes remain hidden. No number on this page reveals the current period's outcome.

Statements you have already consulted

You have not consulted any statement yet.

Continue

Figure 4.1: A committed confirmation retains investment and does not disclose the pending block.

Outcome statement

Periods 1–3

This statement includes only the indicated interval. Future draws remain unknown.

Reference budgets for the interval (ECU)	300.00
Total investment in the interval (ECU)	150.00
Change from reference budgets (ECU)	375.00

Period	Amount invested (ECU)	Wealth for the interval (ECU)	Change from reference budgets (ECU)	Outcome
1	50.00	225.00	125.00	Success
2	50.00	225.00	125.00	Success
3	50.00	225.00	125.00	Success

Continue

Figure 4.2: Detailed statements release period rows at the block end.

Investment decision

Period 7 of 9

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

Your current choice will apply to periods 7–9. You may edit it before confirming.

Unpublished outcomes remain hidden. No number on this page reveals the current period's outcome.

Amount invested (ECU)

Amount kept unchanged: — ECU

Statements you have already consulted

Period	Change from reference budgets (ECU)
Periods 1–3	25.00
Periods 1–6	225.00

Continue

Figure 4.3: Cumulative history retains its evaluation intervals.

Outcome statement

Periods 1–1

This statement includes only the indicated interval. Future draws remain unknown.

Reference budgets for the interval (ECU)	100.00
Total investment in the interval (ECU)	50.00
Wealth for the interval (ECU)	50.00

Continue

Figure 4.4: The statement presents wealth under the same payment as change presentation.

Budget and investment rules

Resources and unit of account

You control a fresh budget of 100.00 ECU in each of 9 periods. Earlier earnings are not reinvested.

ECU means Experimental Currency Units. Points are recorded in ECU; this activity announces no cash conversion.

Your point payment is the sum of wealth from all periods; no randomly selected single period replaces that sum.

Each period also pays 100.00 guaranteed ECU. This amount is added to the outcome and does not increase the budget available for investment.

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

This session does not convert ECU into real money.

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

Each period has an independent draw. The success probability is $1/3$. On success, each invested ECU returns 3.50 ECU including principal; without success it returns zero.

One choice fixes the same amount for 3 consecutive periods. You may change it only at the start of the next block.

You will receive a statement at the end of each group of 3 periods. Before that end, outcomes for the group remain hidden.

Each period also pays 100.00 guaranteed ECU. This amount is added to the outcome and does not increase the budget available for investment.

The statement will show a sum without separating the individual outcomes in its group.

Example: investing 50.00 ECU gives period wealth of 325.00 ECU on success and 150.00 ECU without success. The reference budget in this example is 100.00 ECU.

Continue

Figure 4.5: Instructions state the additional payment and exclude it from investable funds.

Budget and investment rules

Resources and unit of account

You control a fresh budget of 100.00 ECU in each of 9 periods. Earlier earnings are not reinvested.

ECU means Experimental Currency Units. Points are recorded in ECU; this activity announces no cash conversion.

Your point payment is the sum of wealth from all periods; no randomly selected single period replaces that sum.

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

This session does not convert ECU into real money.

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

Each period has an independent draw. The success probability is 9/10. On success, each invested ECU returns 1.30 ECU including principal; without success it returns zero.

One choice fixes the same amount for 3 consecutive periods. You may change it only at the start of the next block.

After confirming each period you will receive its outcome.

Example: investing 50.00 ECU gives period wealth of 115.00 ECU on success and 50.00 ECU without success. The reference budget in this example is 100.00 ECU.

Continue

Figure 4.6: Instructions use the selected risk profile's probabilities and returns.

Outcome consultation

Period 1 of 9

This period has already been confirmed. Viewing it changes neither payment nor future-draw information.

Would you like to consult this period's outcome now?

- ☐ Yes, consult the outcome
- ☐ No, continue without consulting it

Continue

Figure 4.7: Voluntary consultation requires an explicit choice.

Journey, report and data

5.1 Screens and activity closure

Welcome presents institutional logos, the general purpose of studying decisions and individual-work rules. It does not announce a myopic-loss-aversion hypothesis or suggest an investment amount. Participants confirm that they have read the rules and start. Instructions then show the effective budget in the page body, define ECU, explain fresh resources, commitment, statement timing and cumulative payment. A guaranteed additional payment is also described when applicable, without being confused with investable capital.

Comprehension checks five rules: budget, unsuccessful example wealth, commitment length, disclosure timing and accumulated payment. Errors generate field-specific feedback showing the submitted answer, correct answer and explanation. Other responses are retained and corrections do not cost points. The instructor can clarify a misunderstood rule without turning assistance into a recommendation about investment. A corrected answer verifies understanding of the institution, not willingness to follow a preferred strategy.

A new-choice screen permits editing before confirmation. In a committed period, that screen shows the recorded amount and asks for confirmation of its application; no editable investment control appears. Prior statements include only outcomes acknowledged under the calendar. Confirming the first or second period of an aggregate block neither opens an outcome nor updates an undisclosed balance. History must not become an alternative information channel that undermines the condition.

Confirmation is followed by a statement when scheduled, or by the next opportunity. Voluntary consultation inserts an explicit viewing choice. The final permitted statement is acknowledged before closure. The final screen states that the activity ended, displays cumulative payment and discloses the complete episode table. It stays open while participants wait for the instructor, with no continuation button leading to a technical no-pages screen.

The final table permits retrospective reconstruction after decisions can no longer change. This later disclosure belongs to the teaching adaptation. It does not mean that individual rows were available during an aggregate condition. Separate information available then from information available now. Otherwise hindsight can make an investment appear to respond to outcomes that had not yet been disclosed. This distinction is essential when students explain their own paths during discussion.

5.2 Progress and controlled report disclosure

Report belongs to the selected session and requires instructor authentication. It initially shows participants, scheduled, confirmed and pending periods, plus people who reached the end. Four participants across nine periods imply 36 scheduled confirmations. If one person confirmed two periods and nobody else began, there are two confirmed and 34 pending. This is neither two observed subjects nor necessarily two new choices.

Aggregates become available only after everyone reaches closure, and still start hidden. The instructor selects Reveal aggregates for discussion and may hide them again. Reloading hides them anew. This permits preparation before projection and prevents a partial class from being represented as the complete session. Downloads remain private resources for preparation and analysis rather than a substitute for controlled classroom revelation.

The main average is constructed in two steps. Investment applied in every active period is first averaged for each participant as a budget percentage. Those participant averages are then averaged across the class. In a complete equal-horizon session this equals the all-period average, but preserves a clear distribution unit and condition comparison. The histogram uses each participant average once. Exact counts are fundamental; displayed percentage bars can be rounded.

The period curve shows mean exposure rather than only new decisions. An amount carried under commitment remains a real exposure. The accompanying table reports contributors and new-choice counts for each period. With revision every three, periods 1, 4 and 7 contain new choices and the others do not. A flat curve may reflect commitment or stable choices; the table distinguishes the underlying institution. Do not interpret zero new decisions as zero investment.

For the instructor

Before projecting, verify language, condition, horizon, people at the end and denominators. If oTree opens the final technical round, use that report view: the application explicitly collects active periods rather than assuming the displayed technical round is the played episode.

5.3 Payments, negative statements and monetary reference

Mean cumulative payment uses one observation per participant: their final sum. Mean period wealth uses confirmed periods in the completed session. These quantities have different units. Across nine periods, cumulative mean 975 and period mean 108.33 can describe the same session. Never compare the first quantity from a long horizon with the second from a short one, or call wealth including fresh budgets a gain.

Negative-statement rate divides acknowledged statements with change below zero by all acknowledged statements. A loss and gain inside an aggregate block contribute one statement. In detail, the report uses the interval sum's sign. Cumulative intervals overlap and voluntary consultation makes the denominator choice-dependent. Every comparison of rates must state those differences. A mechanically lower rate may reflect aggregation of the same path rather than a different investment decision.

The programme records screen acknowledgement, not visual attention or emotional evaluation. A participant may acknowledge quickly without processing the statement like another person. The counter consequently describes an observable part of the journey. An undefined rate with no statements must not become zero. Neither should rate differences estimate the underlying loss probability directly when interval definitions change. The distinctions preserve the link between

the measured variable and the claim being made.

The monetary reference seeks a feasible amount maximizing expected payment at announced probabilities and rounding. It does not use realized future draws to advise a choice. Under the basic lottery, full investment of 100 is a valid reference and expected total payment across nine periods is 1050. Other profiles permit small cent-rounding shifts. The report supplies both the amount and its expectation so the benchmark is not computed under different rules from the activity.

This reference omits preferences over dispersion, losses and evaluation. Lower exposure is not automatically an error, and higher realized payment does not establish better judgement because luck affects payment. The pedagogical question concerns the chosen distribution and mechanisms compatible with it. Distinguish a prediction before the draw, observed exposure and the subsequent outcome in every feedback comment. This distinction makes even a class with similar investment averages informative.

5.4 Downloads, privacy and file interpretation

The report offers a period CSV and a wide file, both restricted to the selected session. The first has multiple rows per participant; the second has one participant row with round columns. Twelve technical rounds accommodate the longest horizon. A nine-period configuration retains additional inactive technical rows in downloads. Their presence does not mean participants skipped scheduled decisions, and they must not be included in the active-period denominator.

The period CSV distinguishes pending, completed and inactive status. It retains amounts already committed for future periods but leaves their auditable outcomes blank until completion. Zero investment differs from a missing amount, and completed wealth zero is not missing data. A new-choice indicator separates decisions from repeated application of an existing amount. Use these status fields before calculating means rather than dropping rows merely because a numerical result is zero.

Files contain technical identifiers for private reconstruction. Do not project them or link them with names, student numbers or seating positions. Authentication and session filtering do not replace responsible use. Aggregate reports display no individual identifiers. For an exported-data exercise, remove identifiers and retain only variables and units needed for the teaching question. A classroom distribution can be explained without exposing any person's record.

Inspect downloads before analysis: participant counts, all round columns, condition, language, acknowledgement fields and cumulative payments. Do not add final payment as though it were another period's income. Points are recorded once at the end, while period wealth audits the sum. When pooling sessions, retain a private condition identifier and comparable parameters, assignment and calendars. Analysis should begin with the institution each row represents, not with an assumption that every nonempty numerical cell is another independent observation.



Welcome to Investment Decisions

The Behavioral and Experimental Economics Research Lab (BEER Lab) belongs to the Department of Economics at Tecnológico de Monterrey. This activity studies individual choices with investment opportunities.

Read the instructions carefully. Your decisions and outcomes do not change anyone else's.

General rules

- Remain silent and do not communicate during the activity.
- Decide individually without consulting other participants.
- Follow the instructions on each screen.
- Ask the instructor if you need help.
- Wait for the instructor's directions when you finish.

I have read the rules and am ready to start.

☐ Yes

☒ No

Start

Figure 5.1: Institutional welcome and individual-work rules.



Budget and investment rules

Resources and unit of account

You control a fresh budget of 100.00 ECU in each of 9 periods. Earlier earnings are not reinvested.

ECU means Experimental Currency Units. Points are recorded in ECU; this activity announces no cash conversion.

Your point payment is the sum of wealth from all periods; no randomly selected single period replaces that sum.

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

This session does not convert ECU into real money.

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

Each period has an independent draw. The success probability is $1/3$. On success, each invested ECU returns 3.50 ECU including principal; without success it returns zero.

One choice fixes the same amount for 3 consecutive periods. You may change it only at the start of the next block.

After confirming each period you will receive its outcome.

Example: investing 50.00 ECU gives period wealth of 225.00 ECU on success and 50.00 ECU without success. The reference budget in this example is 100.00 ECU.

Continue

Figure 5.2: Effective budget, ECU, commitment and accumulated payment.



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.

These questions check the rules; they do not recommend an investment. Correct any errors without losing points.

Example: investing 50.00 ECU gives period wealth of 225.00 ECU on success and 50.00 ECU without success. The reference budget in this example is 100.00 ECU.

How many ECU can you allocate in each period?

In the example, what is wealth for a period without success?

For how many periods is each chosen amount fixed?

When can you consult outcomes during this activity?

- ☐ After each period
- ☐ At the end of each announced group
- ☐ Only after every period is finished
- ☐ When I choose to consult a period

How is the final point payment determined?

- ☐ Sum of all periods
- ☐ One randomly selected period

Continue

Figure 5.3: Comprehension checks rules without recommending investment.



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.

These questions check the rules; they do not recommend an investment. Correct any errors without losing points.

Example: investing 50.00 ECU gives period wealth of 225.00 ECU on success and 50.00 ECU without success. The reference budget in this example is 100.00 ECU.

How many ECU can you allocate in each period?

Your answer: 90. The correct answer is 100. The fresh budget is 100.00 ECU in each period. Earlier earnings do not change it.

In the example, what is wealth for a period without success?

For how many periods is each chosen amount fixed?

When can you consult outcomes during this activity?

- ☒ After each period
- ☐ At the end of each announced group
- ☐ Only after every period is finished
- ☐ When I choose to consult a period

How is the final point payment determined?

- ☒ Sum of all periods
- ☐ One randomly selected period

Continue

Figure 5.4: Errors explain corrections and retain other responses.



Investment decision

Period 1 of 9

In each period you decide how much of the 100.00-ECU budget to invest. The amount not invested is kept unchanged.

Your current choice will apply to periods 1–3. You may edit it before confirming.

Unpublished outcomes remain hidden. No number on this page reveals the current period's outcome.

Amount invested (ECU)

Amount kept unchanged: 50.00 ECU

Statements you have already consulted

You have not consulted any statement yet.

Continue

Figure 5.5: A new choice can be edited before confirmation.



Outcome statement

Periods 1–1

This statement includes only the indicated interval. Future draws remain unknown.

Reference budgets for the interval (ECU)	100.00
Total investment in the interval (ECU)	50.00
Change from reference budgets (ECU)	125.00

Continue

Figure 5.6: The statement discloses only the permitted interval.



The activity has ended

All your decisions are complete. The full table is disclosed now; none of its outcomes was available before the announced disclosure date. Wait for the instructor's directions.

Your total payment is 975.00 ECU, the sum of 9 periods.

Period	Amount invested (ECU)	Wealth for the interval (ECU)	Change from reference budgets (ECU)	Outcome
1	50.00	225.00	125.00	Success
2	50.00	50.00	-50.00	No success
3	50.00	50.00	-50.00	No success
4	50.00	225.00	125.00	Success
5	50.00	50.00	-50.00	No success
6	50.00	50.00	-50.00	No success
7	50.00	50.00	-50.00	No success
8	50.00	50.00	-50.00	No success
9	50.00	225.00	125.00	Success

Figure 5.7: The final page confirms closure and permits episode reconstruction.

Instructor report: Feedback frequency and investment

Private report comparing investment, disclosure calendars and loss exposure. No individual identifiers are displayed.

Per-period feedback; revise every three · EN

Condition calendar

9 periods; revise every 3; statement every 1.

Participants: 4

Scheduled periods: 36

Confirmed periods: 27

Pending periods: 9

Participants who reached the end: 3

A participant confirms several periods and may make fewer new choices. The histogram unit is the participant, using their average investment. Observations from one person are dependent.

[Download this session's periods \(CSV\)](#)

[Download this session's wide data](#)

Aggregates require everyone to reach the end and start hidden on every load. Private downloads include pending and inactive rows with blank outcomes.

Some journeys are incomplete. Counts are shown; aggregates are not available yet.

Figure 5.8: The report shows progress and withholds aggregates.

Instructor report: Feedback frequency and investment

Private report comparing investment, disclosure calendars and loss exposure. No individual identifiers are displayed.

Per-period feedback; revise every three · EN

Condition calendar

9 periods; revise every 3; statement every 1.

Participants: 4

Scheduled periods: 36

Confirmed periods: 36

Pending periods: 0

Participants who reached the end: 4

A participant confirms several periods and may make fewer new choices. The histogram unit is the participant, using their average investment. Observations from one person are dependent.

Download this session's periods (CSV)

Download this session's wide data

Aggregates require everyone to reach the end and start hidden on every load. Private downloads include pending and inactive rows with blank outcomes.

Reveal aggregates for discussion

Figure 5.9: A completed session requires deliberate revelation.

Instructor report: Feedback frequency and investment

Private report comparing investment, disclosure calendars and loss exposure. No individual identifiers are displayed.

Per-period feedback; revise every three · EN

Condition calendar

9 periods; revise every 3; statement every 1.

Participants: 4

Scheduled periods: 36

Confirmed periods: 36

Pending periods: 0

Participants who reached the end: 4

A participant confirms several periods and may make fewer new choices. The histogram unit is the participant, using their average investment. Observations from one person are dependent.

[Download this session's periods \(CSV\)](#)

[Download this session's wide data](#)

Aggregates require everyone to reach the end and start hidden on every load. Private downloads include pending and inactive rows with blank outcomes.

[Hide aggregates](#)

Session overview

Mean participant-average investment (% of budget)	50.00
Median participant-average investment (%)	50.00
Mean cumulative payment per participant (ECU)	1018.75
Mean wealth per confirmed period (ECU)	113.19
Recorded new choices	12.00
Confirmed periods	36.00
Participants in aggregates	4.00
Consulted statements	36.00
Statements with negative change (% of consulted statements)	63.89

Figure 5.10: Units and denominators distinguish people, choices and periods.

Distribution of individual average investment

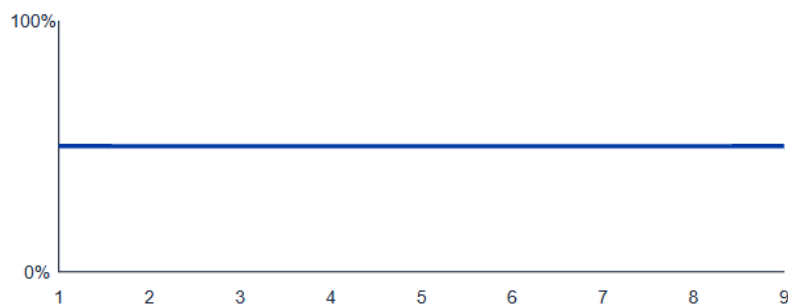
Each participant appears once. Bins use their average investment as a percentage of the budget; zero is an observed choice.

0%	0	0%
(0,25]%	0	0%
(25,50]%	4	100%
(50,75]%	0	0%
(75,100)%	0	0%
100%	0	0%

Figure 5.11: Each participant appears once in the histogram.

Investment over periods

The curve shows average exposure, including amounts carried under commitment. The table distinguishes periods from new choices.



Period	n	New choices (n)	Mean investment (%)
1	4	4	50.00
2	4	0	50.00
3	4	0	50.00
4	4	4	50.00
5	4	0	50.00
6	4	0	50.00
7	4	4	50.00
8	4	0	50.00
9	4	0	50.00

Figure 5.12: The trajectory shows average exposure and new choices.

Class plan and worked exercises

6.1 A fifty-minute lesson

Use the first five minutes to explain the investment question and distribute links. Do not announce a desired outcome pattern. A sufficient verbal introduction is: “Decide individually. Read the budget, probabilities and commitment rule. Unpublished numbers remain unknown. Ask if a rule is unclear and wait when you finish.” The calendar should come from the effective instructions rather than a verbal summary contradicting the assigned condition. Consistency matters more than a long introduction.

Allow fifteen minutes for reading, comprehension and the episode. For between-group comparisons, use appropriate language titles and links with assignment determined before choices. Monitor progress privately without revealing distributions. Clarify procedural doubts consistently. If someone asks for the best amount, restate the mechanism and permitted range without recommending a strategy. Guidance before choice can change the question being studied, even when intended as ordinary teaching assistance.

Use ten minutes to reconstruct the three-period example. Write wealth 50, 225 and 50; then changes from 100; finally the block sum. Ask what was known before the next revision date. Establish that period four’s budget does not depend on the first block’s 325 ECU. Only then reveal the report to compare participant-average investment, histogram and curve. This sequence supplies units before presenting statistics and makes the institutional comparison easier to understand.

Allocate another ten minutes to the institutional contrast. Ask whether the lottery, revision timing, disclosure timing or representation changed. If investment amounts are similar, discuss explanations still compatible with the result. If means differ, inspect the distribution and class size before attributing a cause. A classroom session is useful for identifying a design even when it does not reproduce a literature pattern. Avoid turning absence of a visible difference into proof that a behavioural mechanism never operates.

Conclude with ten minutes of individual work and discussion. Ask why a positive block can contain losses, and why frequent, flexible feedback versus aggregated, committed feedback changes multiple dimensions. Assess reasoning; earned points depend on luck. Announce any participation grading criterion beforehand and keep it separate from earnings.

Feedback script

Closing script: “First reconstruct what was possible and what was known. Then compare chosen exposures. Finally discuss why someone could evaluate the same path differently. What would another experiment need to measure to distinguish those explanations?”

6.2 Exercises with solutions and interpretation criteria

Reconstructing wealth without duplicate principal

At budget 100 and investment 40, calculate wealth with and without success in the basic lottery. Retained wealth is 60; success returns $3.5 \times 40 = 140$ from investment. Wealth is 200 on success or 60 otherwise, with changes +100 and -40 . Expected wealth is approximately $200/3 + 2 \times 60/3 = 106.67$. An answer of 240 counts principal twice; an unsuccessful outcome of 20 deducts the loss twice.

One path, two information statements

Keep investment 40 for three periods realizing no success, success and no success. Wealth is 60, 200 and 60. Block payment is 320 and change from 300 is +20. Per-period changes are -40 , +100, -40 . Ask students to draw two representations and identify the figure disclosed before period four. Payment does not change when the statement is rearranged. The exercise tests accounting equivalence rather than the ability to recall a condition label.

Counting people, choices and periods

A completed session has four participants, nine periods and revision every three. It contains 36 confirmed periods, 12 new choices and four individual averages for the histogram. Three-period aggregation gives 12 acknowledged statements. Fixing investment for the whole episode reduces new choices to four while confirmations and aggregate statements remain unchanged. None of these counts automatically substitutes for the number of subjects, and the interpretation of a denominator must accompany its value.

Zero is not missing

A person invests 100 throughout and obtains no successes. Every period's wealth and cumulative payment are zero. The completed journey stays in the aggregates. Another person never confirms period one: their outcomes are blank and full-session disclosure is still unavailable. Comparing these cases identifies the role of record status and avoids excluding valid observations for having zero payment. A numerical filter cannot replace the completion indicator.

Prediction under an illustrative parameter

Suppose investment 40 and $\lambda = 1.5$ in the piecewise function. One-period expected value is $40(2.5 - 3)/3 = -6.67$. Aggregating three gives $40(37.5 - 36)/27 = 2.22$. This explains an evaluation difference rather than a charge or an estimate of λ . At $\lambda = 1$, both evaluations agree on monetary expectation and that particular source of a difference disappears. Explain which assumption changed before interpreting the new prediction.

A different risk profile

At investment 40, success probability 0.9 and net gain 30%, wealth is 112 or 60 and expectation 106.80. With a 15% gain, wealth is 106 or 60 and expectation 101.40. Across three periods of the first profile, two successes and one failure produce change $12 + 12 - 40 = -16$. This contrasts with the basic lottery and demonstrates that two successes do not guarantee a positive block. Distribution details matter even when probabilities appear favourable.

An uncomputable rate

Nobody acknowledges statements under voluntary consultation. Negative-statement rate is undefined because its denominator is zero; do not write 0%. A session with twelve acknowledged statements and none negative does have a zero rate. Both may have the same average investment while representing different observed information. Preserving that distinction prevents missing data from becoming an apparently loss-free experience. The report's dash has a substantive interpretation rather than being a cosmetic omission.

Designing an interpretable contrast

One group receives frequent feedback and revises every period; another receives aggregated feedback and revises every three. An investment difference cannot identify which institution produced it. Add frequent feedback with revision every three and aggregate feedback with revision every period. Preserve lottery, budget and horizon. The factorial separates one-dimension comparisons and a possible interaction without making small-class averages sufficient causal evidence on their own. Students should state the controls as part of the proposed design.

6.3 Common problems and closure checklist

If someone tries to revise a committed amount, first check the selected revision rule. A screen without an editable field may be the correct institution. If aggregation seems to provide no outcomes, check the period number: the first two periods in a block should not disclose them. If the final period was confirmed but aggregates remain unavailable, the last statement may still await acknowledgement. Never fabricate observations to close an abandoned journey.

A link reporting a nonexistent participant commonly belongs to an older session or a replaced database. Open the appropriate session and distribute its current link. Restarting the server does not require deleting data. If Demo shows another family, return to this game's instance and verify its scope before creating a class. If a download has more rows than expected, distinguish inactive technical rounds from active periods and wide format from period format.

Validation requires a finite amount within the budget with at most two decimal places. Incomplete comprehension can be corrected without losing points. Voluntary consultation requires an explicit choice; not responding is not choosing No. If one statement presents wealth and another change, reconstruct both relative to the budget before diagnosing an error. Cent-rounding differences concern accounting rather than a hidden monetary institution.

Attention

Do not erase a classroom database to resolve an interface question. Retain the data, identify session and condition, and verify the calendar. Abandonment is an incomplete journey, not zero investment, and never authorizes invented choices.

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