

Create or contest? Rent-seeking and the erosion of collective value in Mozambique

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Abstract

We run a lab experiment to study whether, and under what conditions, individuals shift effort from value-creating production to rent-seeking. In the game, university students from across Mozambique allocate tokens across production, influence, and saving. Production generates private returns and augments a shared community fund; influence contests the distribution of that fund but reduces its total value; and saving yields a safe return. Within-sessions we vary both endowment inequality and the initial fund size. Between-sessions we randomly provide information on the collective costs of rent-seeking. Contrary to the Nash prediction, individuals do not vary influence spending with the windfall. Instead, we find evidence for a proportional allocation rule, which we interpret as a fast-and-frugal heuristic that applies when the optimal response is cognitively inaccessible. However, a payoff-neutral information intervention is the one manipulation that reduces influence spending. These results question the implicit microeconomic behavioural assumptions underpinning a long tradition of research on rent-seeking.

Keywords: rent-seeking; common resources; windfalls; inequality; lab experiment; Mozambique

JEL codes: C92; D72; O17; Q34

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1 Introduction

The collective costs of rent-seeking are well established, especially in developing countries (Krueger, 1974). As observed by Tullock (1967), while the deadweight cost of a transfer sought by a rent-seeker may be modest, sizeable social costs can arise from resources expended in the contest itself. Following Baumol (1990), prominent explanations for differences in the intensity of rent-seeking across societies are institutional. Where structures reward production, entrepreneurial energy flows to innovation and growth; where rent-seeking, litigation, and bureaucratic predation pay better, the same energy is redirected to unproductive ends. Murphy et al. (1991) formalised this as a trade-off between productive and unproductive allocations of talent, and Acemoglu (1995) embedded it in an equilibrium model in which the reward to each activity depends on how many agents choose it, with later work extending the logic to weak institutions (Acemoglu and Verdier, 1998), resource windfalls (Tornell and Lane, 1999; Mehlum et al., 2006), and predation traps (Mehlum et al., 2003).

This tradition rests on a premise that rent-seeking is an optimising response to the returns it offers. However, this behavioural assumption has rarely been examined directly. Much empirical work in the above tradition is aggregate and cross-sectional in nature (e.g. Mauro, 1995; Svensson, 2000; Auriol et al., 2016), capturing correlates of outcomes rather than behavioural mechanisms. The experimental literature on rent-seeking games, in turn, has predominantly focused on deviations from Nash equilibria in simple bidding contests (Dechenaux et al., 2015; Cason et al., 2020), in which productive alternatives to rent-seeking are excluded by design. A small number of studies do combine the two options, closest among them being the bilateral trust game of Oosterbeek et al. (2011), in which a seller allocates resources between productive investment and appropriation from an identified counterparty, finding behaviour that broadly confirms the optimising benchmark. But whether individual rent-seeking tracks its returns when the resource is an endogenous common pool rather than a bilateral transfer remains (to our knowledge) untested.

This paper returns to Baumol’s original question, asking how the intensity of individual rent-seeking responds to the economic environment and, in particular, whether it varies with returns at the margin. We implement a lab experiment with students across four universities in Mozambique, in which an incentivised game is played over independent rounds. Participants allocate tokens among production, influence, and saving. Production yields a private return and contributes to a community fund, which is also seeded by a windfall; influence raises a participant’s realised share of the fund while eroding its aggregate value; and saving is a safe outside option. All mechanics are fully legible: endowments, the windfall, the realised fund, and collective returns are announced and displayed throughout, so that any failure of rent-seeking to respond to returns cannot be attributed to hidden information. We vary the windfall and the distribution of endowments across rounds to identify how allocations respond.

The design occupies a distinctive position in the literature, distinguished by the presence of private *and* social effects across two active decision margins, coupled by a budget constraint. Production

benefits the individual through a private return, and benefits the group through contributions to the common fund. Influence costs the individual lost production, and costs the group through erosion of the fund's value; the potential upside is that influence allows the player to capture a larger share of the fund. In part, this echoes [Chung \(1996\)](#), as well as [Alexeev and Leitzel \(1996\)](#), where the prize in a Tullock contest is endogenous to aggregate effort (also [Chowdhury and Sheremeta, 2011](#)). However, here the contested prize is endogenous to spending on both margins, in opposite directions, mirroring Baumol's distinction between productive and destructive activity.¹ And unlike the bilateral-transfer models of the allocation-of-talent tradition ([Murphy et al., 1991](#); [Acemoglu, 1995](#)), or of pressure-group competition ([Becker, 1983](#)), in which rent-seeking redistributes between identifiable parties, the contested resource here is a common pool — held collectively and eroded by those who contest it (as in [Ostrom et al., 1992](#)). This feature mirrors widespread forms of everyday rent-seeking, which divert resources that are collectively held, such as natural-resource rents or public budgets.

Our central finding is that individual rent-seeking does not track the windfall. Participants allocate a broadly stable proportion of their endowment to influence — roughly a fifth of every token — irrespective of the size of the prize. This sits in contrast to the optimising prediction that influence should rise steeply with the prize. A proportional allocation pattern in fact governs all three margins, including the strictly dominated saving option, and is stable across rounds, campuses, and participant characteristics. However, an information intervention that makes the collective cost of influence salient, while leaving payoffs unchanged, does shift behaviour. It reduces influence and recovers a substantial share of the value otherwise lost. Nonetheless, the overall efficiency loss from the observed behavioural patterns remain large and are regressively borne, falling most heavily on those whose payoffs depend most on the common fund.

The main contributions are threefold. The first is empirical and substantive. We construct a novel contest over a common pool to test whether individual rent-seeking responds to the returns it offers, as the allocation-of-talent tradition has assumed. We find it does not. Influence remains insensitive to the size of the prize, tracking instead a fixed proportion of a participant's endowment. Evidence suggests this departure from the optimum is not a confused or mis-calibrated response to returns, but an insensitivity to them. Also it is costly: realised collective payoffs fall roughly a third short of the efficient allocation, and the loss is regressively borne, consuming around two-thirds of the efficient payoff of the resource-poor against a fifth for the resource-rich. Because the poor depend most on the common fund that influence erodes, while the rich are cushioned by the private return to their own production, rent-seeking over a common pool falls hardest on those least able to bear it.

The second contribution is interpretive. Our finding connects to a large literature on why Nash play often does not obtain in contests ([Dechenaux et al., 2015](#)), including explanations grounded

¹ By eroding rather than merely reallocating the common fund, influence spending is destructive in the precise sense of Baumol, which also is a category left comparatively under-formalised in the allocation-of-talent strand of models ([Murphy et al., 1991](#); [Acemoglu, 1995](#)).

in non-equilibrium strategic thinking in which agents truncate the deep iterated reasoning that equilibrium requires and rely on simpler rules (e.g., [Crawford et al., 2013](#); [Masiliunas et al., 2014](#)). That literature shows individuals frequently respond to the *direction* of incentives, but principally where those incentives remain legible: effort rises with a transparent prize or falls with a transparent cost. But the interior equilibrium of a contest over an endogenous, self-eroding prize is not similarly legible. Its marginal return is the difference between opposing forces, and its sign cannot be read-off from the displayed primitives. The stable proportional rule that participants apply is rather more consistent with mental accounting or budget-share heuristics, widely documented for allocation problems elsewhere ([Thaler, 1999](#); [Benartzi and Thaler, 2001, 2007](#)). In short, a simple rule is deployed where the optimising response is not something agents can compute or even approximate reliably.

The third contribution is for policy. If rent-seeking in some contexts is governed more by a behavioural heuristic than an optimizing response to returns, then standard levers that operate by changing the returns to rent-seeking — from institutional reform to fiscal rules that cap the rents available for capture — face an unanticipated headwind. What moves a heuristic is not the optimal return but the salience of its consequences. This is examined via an information intervention that makes the collective cost of influence salient while keeping the payoff fixed, leading to a reduction in influence spending that recovers a substantial part of the lost value. This points to a policy lever that inverts the standard prescription — shifting attention rather than returns — and places our result alongside evidence that interventions designed to modify or work with simple decision rules can be more effective than those presuming sophisticated optimisation, particularly in low-capacity settings ([Drexler et al., 2014](#)).

2 Game design

2.1 Overview

Participants are placed in fixed groups of $N = 10$ and play repeated independent games over $T = 10$ rounds, of which the first two (denoted -2, -1) operate as explicit test or practice rounds. In each round, participants simultaneously allocate tokens across three activities — production, influence, and saving — and receive payoffs determined jointly by their own allocation and those of all other group members. In all rounds, a common fund receives an initial public windfall (seed capital), which can be augmented by players’ production decisions. The realized fund is distributed at the end of each round in accordance with spending on influence, the default being it is divided equally. Spending on influence also carries a negative externality by diminishing the aggregate value of the fund.

Detailed instructions, including simplified worked examples, are provided to all players in writing

and are read aloud by the game instructor at the start of each session. Figure A1 reproduces an illustration provided in the instructions that summarises the game mechanics, and which remains available to the players throughout. The game is implemented manually (using pen and paper) with the exception of the calculation of results between each round, which is based on a structured Excel template used by the instructor (only).²

Experiments are conducted at four separate university campuses in Mozambique by independent enumeration teams: Universidade Eduardo Mondlane (UEM) in Maputo, UniZambeze in Beira, UniLúrio in Nampula, and UniRovuma’s Nampula delegation. Participants are recruited voluntarily on the corresponding campus of each university, primarily by liaising with teachers and inviting students in selected courses to join game sessions scheduled before or after classes.³ In each session participants are seated so that they cannot observe each other’s decision sheets and private communication between players is forbidden during play. Players cannot join more than one session.

In accordance with the instructions, at the end of the session one of the main rounds (1-8) is selected at random to determine payment at a rate of 10 MZN per token earned, plus a fixed participation fee of 100 MZN. Total payment therefore ranges from a minimum of 100 MZN (participation fee only, if payoff tokens are zero) to a maximum of approximately 400–500 MZN. At the Nash equilibrium (see below), the typical payment is approximately 240–250 MZN, equal to around 4 USD, which is roughly the daily wage of a low-skill worker.⁴

2.2 Treatment structure

Three core features of the game design are manipulated for identification purposes. Within each session we vary the dispersion of individual endowments (denoted e_j for player j), as well as the size of the initial windfall (W) that seeds the common fund. This yields a 2×2 factorial of treatment cells, summarised in Appendix Table A1. In the equal endowment treatment (cells A and B), all participants receive $e_j = 10$ tokens, so $E = \sum_j e_j = 100$. In the unequal treatment (cells C and D), five participants receive $e_L = 2$ tokens and five receive $e_H = 18$ tokens, preserving $E = 100$. Every session visits all four cells exactly twice over the 8 incentivised rounds in two blocks. Rounds 1–4 are a uniformly random permutation of {A, B, C, D}, drawn independently for each session. Rounds 5–8 are a second independent uniformly random permutation of {A, B, C, D}. Each cell therefore appears exactly once in the first half-session and exactly once in the second half-session. The two permutations are drawn independently. This design guarantees balanced cell exposure across the mid-session break by construction, ensuring the difference-in-differences estimate for the between-session treatment (see below) is not confounded by differential cell composition across the

² Material provided to participants is reproduced in Appendix C. The instructions are available to the players throughout the game for reference.

³ We make no claim that the players are representative of the student body.

⁴ At prevailing exchange rates 1 USD = 62.35 MZN; all payments are made by mobile money transfer by a third party agent.

break.

At the start of each session, the ten participants are assigned randomly to one of two types (Type 1 or Type 2), with five players per type. In unequal treatment rounds during the first half-session (rounds 1–4), Type 1 players receive $e_L = 2$ and Type 2 players receive $e_H = 18$. In the second half-session (rounds 5–8) the assignments are reversed: Type 1 players receive $e_H = 18$ and Type 2 players receive $e_L = 2$ in unequal treatment rounds. Every participant therefore experiences both endowment positions over the course of the session. Type assignment is private, and the endowment assigned to each type is held constant across the two unequal cells within each half-session, so that the windfall comparison under inequality is not confounded with changes in endowment position.

Concerning between-session variation, sessions are assigned to either an information intervention or a control arm (placebo), administered during a mid-session break after round 4. Approximately 50% sessions are randomly allocated to each arm in each location. In the information sessions the experimenter delivers a brief worked demonstration, grounded in the two numerical examples from the game instructions, showing how aggregate influence erodes the fund. Participants are walked through the contrast between a no-influence scenario (Example 1) and a scenario where one player shifts tokens to influence (Example 2), highlighting that influence reduces the total fund and leaves the group worse-off in aggregate.

The demonstration seeks only to make the collective cost of rent-seeking salient, but does not prescribe a specific course of action. It closes with an open reflective question — “*How can you and the group as a whole achieve the biggest total return?*” — to which the experimenter does not respond aloud. In the control sessions, the experimenter delivers a placebo break of roughly equal duration — effectively, this operates as a comprehension check on the payoff rules but does not touch on the fund depletion mechanism.

2.3 Information structure

At the start of each round the endowment associated with each player type is announced, as is the windfall accruing to the common fund. Individual endowments are never publicly disclosed. So, each player only knows their own endowment (which they write on their decision sheet), from which they can infer the structure of inequality; but they cannot identify who holds what endowment. At the end of each round, the experimenter publicly announces five aggregate outcomes to the group: total production P , total saving S , total influence I , the realised fund size F (defined below), and aggregate returns $(1.2P + S + F)$. These are written on a board visible to all participants, with one row per round accumulating across the session. This allows participants to observe the evolving correlation between aggregate influence and the fund across rounds. Appendix Figure A2 reproduces an example from one of the actual sessions.

After each round individual payoffs π_j are communicated privately to each participant on their

private decision sheet. Players therefore observe the group outcome but not each other's earnings or individual allocations, preventing reverse-engineering of others' choices while ensuring the aggregate relationship between I and F is publicly legible.

Note that the gross fund F_0 (i.e., the counterfactual under zero influence) is *not* announced or displayed at any point. However, participants can observe the empirical correlation between I and F across rounds; and, in theory, they could calculate its value as well as the depletion formula exactly, based on the aggregate information and the game mechanic instructions (see Figure A1). In this sense, the information treatment merely makes the aggregate cost of influence salient.

2.4 Pre- and post-game surveys

Before play begins, participants complete a pre-game questionnaire eliciting: (i) basic demographic information (gender, age, course of study, province of origin); (ii) socio-economic status (a 10-rung ladder anchored to the student population); (iii) zero-sum versus positive-sum orientation; (iv) unconditional cooperation (willingness to contribute to a shared activity without knowledge of others' choices); (v) conditional cooperation (willingness to contribute when others are known to be contributing); (vi) trust; (vii) time preference; (viii) risk preference; and (ix) prior experiment participation.⁵ Attitudinal measures are used as (pre-specified) covariates in the estimation, following the theoretical prediction of Savikhin and Sheremeta (2013) that competitive and cooperative orientations are individually stable traits that correlate with behaviour in diverse environments.

After the final round, participants complete a post-game survey containing four comprehension questions to test understanding of the core game mechanics (fund depletion, fund share, production contribution, and the total depletion scenario), followed by two questions on perceptions of informal influence in participants' own communities. The comprehension questions serve as *ex post* diagnostics for whether participants understood the game structure; the informal influence items are moved to the post-game survey to avoid priming participants with the influence framing before play. Survey instruments are included in Appendix C.

3 Theoretical framework and predictions

This section sets out the game's formal decision-making and payoff structure, followed by four predictions based on an optimising benchmark. The first three predictions follow from payoff maximisation; the fourth is a behavioural hypothesis with no counterpart under optimisation. All derivations, equilibrium values, and the existence-and-uniqueness argument are in Appendix B.

⁵ Items (iv) and (v) are presented in the sequence described in order to avoid anchoring unconditional responses on conditional ones.

3.1 Allocation decision and payoffs

Each participant j receives a token endowment e_j at the start of every round. Endowments reset between rounds and no resources carry forward, so all rounds are independent. Participant j allocates tokens across three activities subject to their budget constraint:

$$p_j + i_j + s_j = e_j, \quad p_j, i_j, s_j \geq 0 \quad (1)$$

where p_j denotes tokens allocated to production, i_j to influence, and s_j to saving. All allocations must be non-negative integers.

Returns to production. Each token allocated to production yields a gross return, $m > 1$, of which a share $\lambda \in [0, 1]$ is transferred to a community fund (see below) and the remaining share $(1 - \lambda)$ constitutes the player's direct private return. To facilitate cognition, in all games we fix $m = 2, \lambda = 0.4$, meaning that for every 10 tokens invested in production, 12 are returned directly to the participant and 8 are transferred to the community fund.

Community fund. The gross fund aggregates the production share contributions across all players, plus an exogenous initial capital windfall, $W \geq 0$, announced in public at the start of each round before players' allocation decisions:

$$F_0 = m\lambda \cdot P + W, \quad P = \sum_j p_j \quad (2)$$

Spending on influence reduces the aggregate value of the fund. Letting $S = \sum_j s_j$ denote total saving, the realised fund is:

$$F = F_0 \cdot \frac{P + S}{P + I + S} = F_0 \cdot \frac{E - I}{E} \equiv F_0 \cdot g \quad (3)$$

where $E \equiv \sum_j e_j = P + I + S$ (total group endowment). The realised fund therefore is a linearly decreasing function of aggregate influence intensity I/E , whereby each percentage point increase in the share of endowment spent on influence reduces the fund by one percent. If no tokens are spent on influence, the fund is undepleted; if all endowments go to influence, the fund is fully destroyed.

Fund allocation. The realised (net) fund, F , is distributed in proportion to influence spending, with a baseline share guaranteed to all participants regardless of their influence allocation. The individual share is given by:

$$\sigma_j = \frac{1 + i_j}{I + N} \quad (4)$$

When $I = 0$, this simplifies to $1/N$ and the full fund is divided equally; and the same occurs if all participants spend the same number of tokens on influence. However, an individual who spends more on influence than the average participant receives a larger than average quota, but also contributes to

the collective shrinkage of the fund.

Payoffs. At the end of each round players receive a private return of:

$$\pi_j = m(1 - \lambda) p_j + s_j + \sigma_j F \quad (5)$$

Note this can diverge from the social optimum return, which arises when every player allocates all tokens to production, such that $P = E$ and is given by: $\pi_j^{\text{SO}} = m(1 - \lambda) e_j + (m\lambda E + W)/N$. And while any individual's return may exceed the social optimum return (by capturing a large share of the community fund), it must be the case that: when $S + I > 0 \iff P < E \implies \sum_j \pi_j^{\text{SO}} > \sum_j \pi_j$.

Summary. Three core features of the design merit emphasis. First, a single budget couples the three activities, so a token spent on capturing value (or on savings) cannot be spent creating it. Second, production and influence spending both carry aggregate spillovers. The former adds to the total size of the economic pie via the gross fund; the latter diminishes the same fund. Third, the quota of equation (4) resembles a Tullock contest success function (CSF) of the linear share form, in which the fund is divided in proportion to contest 'effort'. However, the present design departs from a canonical Tullock contest in two substantive respects. The additive constant ensures every player gets a baseline share $1/(I + N)$ of the common fund even at zero influence spending – i.e., the fund is a common entitlement that influence redistributes, not a prize only won by influence spending. This regularises the contest such that the success function is well-defined at the zero-effort profile; and the marginal return to influence (see below) retains the Tullock property of diminishing in one's own spending while being bounded below by the baseline share. Alongside the endogenous and destructible nature of the common fund, this feature distinguishes it as a value-destroying common-pool contest, rather than a purely redistributive contest.

3.2 Predictions

Four theoretical predictions are of note. The first three, P1–P3, are implications of payoff maximisation, ordered from the weakest (dominance), through the central restriction (endowment independence and its distributional corollary), to the pivotal comparative static (the windfall response). Prediction P4 is a behavioural hypothesis that optimisation contradicts. Throughout, the decision-making benchmark is the stage-game Nash equilibrium. Since rounds are independent (Section 2), its repetition is the prediction for the full sequence. Indeed, single-round payments and endowment resetting eliminate inter-temporal resource linkages that could sustain cooperation across rounds.

P1 (dominance). Production dominates saving. A token spent on production returns $m(1 - \lambda)$ privately, plus a positive return from the realised fund: $m\lambda \cdot g \cdot \sigma_j \geq 0$, against the unit return to saving. Production strictly dominates saving whenever $m(1 - \lambda) > 1 \iff \lambda < 1 - 1/m$. At the fixed game values ($\lambda = 0.4$, $m = 2$) dominance is thus strict. In turn, optimisation implies $s_j = 0$

for all j in all rounds, which requires no marginal reasoning.

P2 (endowment response). The first-order condition for influence is invariant to individual endowments. The unconstrained optimal allocation, denoted i^* , is identical for all players regardless of their individual endowment e_j , depending only on aggregate quantities (see Appendix B.3). Individual endowments therefore only affect equilibrium influence through a feasibility constraint, $i_j \leq e_j$, which says that influence spending is capped by the size of the endowment and thus may lie below the unconstrained Nash value for some players.

In practice, two regimes arise according to whether i^* exceeds the low(est) individual endowment, e_L . Under *Regime 1* ($i^* \leq e_L$) no constraint binds; all players choose i^* and influence is strictly independent of endowment. Under *Regime 2* ($i^* > e_L$) some players are constrained to $i_L = e_L$ and spend below the unconstrained optimum, raising the share available to unconstrained players and pulling their influence above i^* ($i_H > i^*$). The presence of binding constraints can thus generate an artefactual influence-endowment response gradient (also see Appendix B.3).

P1 & P2 (mirror corollary). A corollary of P1 and P2 follows from the budget identity. At any optimum, saving should be zero (by P1), so a marginal token of endowment is only split between production and influence, implying:

$$\frac{\partial p}{\partial e} = 1 - \frac{\partial i}{\partial e} \quad (6)$$

This prediction holds in *both* regimes of P2. When no constraint binds, the influence gradient is zero and production absorbs the entire marginal token ($\partial p / \partial e = 1$); in Regime 2 the corner induces a positive influence gradient, and production falls below one by exactly that amount. So, either way, the two endowment gradients should be mirror images.

P3 (windfall effect). Echoing features of a conventional Tullock contest, the windfall enters the gross fund F_0 , raising the return to capturing a share of it. However, unlike a fixed-prize contest, here influence spending also raises the marginal cost due to the value destroyed by additional spending on capture. Even so, as verified by implicit differentiation of the equilibrium condition (Appendix B.4), the benefit effect dominates, so equilibrium influence is predicted to rise with the size of the windfall.⁶

P4 (information treatment). The final prediction has no direct optimisation counterpart. A payoff-maximiser already internalises their own share of the collective cost in choosing i^* , so making that cost salient changes nothing; the remaining cost falls on others and does not enter a self-interested optimum. However, a behavioural response to the intervention is possible. The evolution of the fund is observed in each round (participants are told W and F at the start and end of each round respectively), but the exact magnitude of any erosion in the fund relative to a no-influence counterfactual is not reported. Absent that reference, the cost of influence spending to the group is

⁶ Specifically, the predicted unconstrained symmetric equilibrium rises from $i^* = 2.53$ at $W = 10$ to $i^* = 4.33$ at $W = 100$. This represents a pivotal test of the allocation-of-talent tradition, a core premise of which is that the size of the prize governs rent-seeking behaviour.

an unattended opportunity cost of the kind decision-makers can routinely neglect until it is made salient (Frederick et al., 2009). So, by pointing to the counterfactual, the information treatment provides a reference point against which influence reads as a loss rather than a foregone gain; and losses relative to a reference are weighted more heavily (Tversky and Kahneman, 1991; Kőszegi and Rabin, 2006). Equivalently, the information treatment raises the salience of the erosion attribute of the game, which otherwise goes unweighted (Bordalo et al., 2012, 2022).

4 Empirical methods

Together, the above predictions provide a benchmark against which observed allocation patterns can be assessed. However, as in much of the literature on games and behaviour, the relevant empirical question is not whether agents consistently attain the theoretical benchmark (i^*), but rather whether observed behaviour is broadly organised according to the underlying optimisation logic it embodies.

The main predictions are tested via a single specification that exploits the orthogonal crossing of windfall and endowment in the design, as well as the random exposure to the information intervention. A primary outcome of interest is absolute influence spending, estimated as:

$$i_{jst} = \alpha_j + \alpha_t + \beta_1 \tilde{e}_{jt} + \beta_2 \tilde{w}_{st} + \beta_3 (\tilde{w}_{st} \times \tilde{e}_{jt}) + \beta_4 (\text{Post}_t \times \text{Info}_s) + \varepsilon_{jst} \quad (7)$$

where α_j are participant fixed effects; α_t are round fixed effects (sequence numbers); $\tilde{e}_{jt} = e_{jt} - 10$ is the player's endowment, centered at the equal allocation; $\tilde{w}_{st} = (W_{st} - 10)/N$ is the per player windfall in round t of session s , centred at the low windfall allocation; $\text{Post}_t = 1$ for rounds 5–8; $\text{Info}_s = 1$ for sessions exposed to the information; and ε is residual noise. Standard errors are clustered at the session level throughout.

The endowment, the windfall, and their interaction terms ($\beta_1, \beta_2, \beta_3$) are identified from round-to-round variation within sessions. The information effect (β_4) is identified from between session variation, namely from the differential pre–post change in treated relative to control sessions. The coefficients also connect directly to the main predictions. Coefficient β_1 is the pooled endowment slope, which optimisation predicts is shallow (P2) – although the rich are pulled above the symmetric optimum by the poor's binding budget constraint, the effect is small and the predicted slope is roughly 0.05 at $W = 10$ (where $\tilde{w}_{st} = 0$). Coefficient β_2 tests P3, the windfall response at the equal endowment. Coefficient β_3 tests whether the endowment modulates the response to the windfall.⁷

The dominance of production over savings (P1) is tested by re-defining the dependent variable as the allocation of tokens to saving. The null hypothesis is that the coefficient on β_1 is zero, implying that any marginal increase in influence spending is mirrored by an equivalent marginal decrease in production spending. For completeness, we report results based on equation (7) for all three

⁷ As discussed in Appendix B.3, optimisation predicts the slope steepens with the windfall ($\beta_3 > 0$).

allocation margins (influence, savings and production), as well as two key outcomes: the players' claim on the realized fund and their total return. These are informative since it is precisely the total of private returns to production, savings (s_j) and their share of the final fund that gives the player's return (equation 5).

An aggregate companion to the main specification at the session-round level is simply:

$$I_{st} = \alpha_s + \alpha_t + \beta_1 \text{Unequal}_{st} + \beta_2 \tilde{W}_{st} + \beta_3 (\text{Unequal}_{st} \times \tilde{W}_{st}) + \beta_4 (\text{Post}_t \times \text{Info}_s) + \varepsilon_{st} \quad (8)$$

where the dependent variable is now aggregate influence spending in round t of session s ; and $\text{Unequal}_{st} = 1$ if endowments are dispersed unequally in the given round. This aggregate specification provides a transparent check that the treatment effects are visible in the raw group-level data and maps directly onto the round-by-round outcomes recorded on the session board.

For heterogeneity analyses, we consider a series of demographic and attitudinal measures as potential correlates of allocation behaviour. Consistent with [Savikhin and Sheremeta \(2013\)](#), the working hypothesis is that differences in competitive and cooperative attitudes may map to systematic differences in influence (rent-seeking) spending, at least to the extent these reflect stable behavioural traits. These dispositions are captured in the pre-game questionnaire using self-reported measures.⁸ Similarly we run a series of post-game comprehension checks to assess whether behaviour can be explained by confusion about the rules of the game.

5 Results

5.1 Descriptive statistics

To begin, Table 1 reports average allocations, returns and participant characteristics by university. The average allocation splits roughly 5.6 to production, 2.3 to influence, and 2.0 to saving. Since the mean endowment is ten tokens in every game, this equates roughly to a 56:23:20 division (the average allocation; the marginal split across the three is similar). As shown below, this pattern recurs throughout the data and across endowment levels. Several additional features are also noteworthy. First, the allocation pattern appears broadly stable across the four campuses: production spending ranges from 5.3 to 6.2 and influence from 1.8 to 2.8, with no campus departing markedly from this overall split. Second, and contrary to the optimising benchmark, saving is substantial everywhere,

⁸ Specifically, an individual is tagged as: *cooperative* if they state they would definitely contribute to a community project without knowing whether others would do so (Q10, Appendix C.2); *risk averse* if they would not accept a risky investment with a positive expected value (Q13); *trusting* if they believe students in their community can generally or always be trusted (Q9); and a *zero sum thinker* if they believe that the success of one business in an area is bad for other similar businesses (Q7). Comprehension is the standardized first principal component of the four post-game checks (Q1-Q4, Appendix C.3).

despite being strictly dominated (P1).

Third, the allocation pattern appears stable across rounds, on average. Figures A3–A5 plot the distributions of relative production, influence and saving by round, showing they are all essentially flat over the eight incentivised rounds. There is no apparent drift toward the equilibrium, and no sign that repeated play, feedback, or accumulated experience induces learning or updating of the allocation rule.

Fourth, behaviour departs less from the Nash benchmark than from the social optimum. Averaged across cells, realised returns are around 90% of the Nash prediction, but fall roughly a third short of the no-influence social optimum.⁹ However, this does not mean behaviour approximately coincides with Nash. As the results below show, influence spending deviates substantially from the cell-by-cell equilibrium. Nor is observed play efficient. The appropriate benchmark for welfare is the social optimum, not the dissipative Nash equilibrium, against which the shortfall is large. These points suggest that the shortfall in the collective payoff does not arise because players rent-seeking far more than Nash – i.e., there is not evidence of over-dissipation. Rather, it appears to reflect the proportional allocation rule that simultaneously holds influence flat as the prize varies while maintaining a persistent, positive share in savings (a dominated margin).

The remaining rows of Table 1 summarise the attitudinal and demographic covariates. Sample composition is broadly similar across the four sites, with only modest differences in age, socio-economic status, and the share of participants classified as zero-sum thinkers. This balance is unsurprising given the common recruitment protocol, and it means the cross-campus stability of the allocation pattern noted above is not an artefact of compositional differences between sites.

5.2 Behavioural patterns

Four facts about behaviours observed in the game help organise the results. Three of these are visible from Table 2, which reports mean allocations and outcomes for each of the six combinations of endowments e_j and windfalls W that reflect the within-session treatment blocks. The first three outcome columns give average saving, production, and influence spending within a cell. Reading down a column shows how each allocation responds to the two design factors; and reading across the windfall pairs within an endowment level isolates the response to the prize. The remaining columns evaluate behaviour against two theoretical benchmarks. The ‘Nash’ column reports the predicted stage-game equilibrium influence for each cell; and ‘Gap’ is the difference between average realised influence spending and that prediction, reporting the standard error of the gap from a saturated

⁹ Minor variation in the (average) Nash and social optimum benchmarks across the four locations reflects the exclusion of a small number of observations from the main rounds (N=13) due to (uncorrected) mistakes found in participants’ decision sheets. These are excluded henceforth.

Table 1: Descriptive statistics, by university

	Mondlane	Zambeze	Lúrio	Rovuma	All
Production	5.52	6.20	5.27	5.48	5.63
Influence	2.26	1.83	2.82	2.49	2.34
Saving	2.22	1.96	1.91	2.04	2.03
Return	16.54	17.97	15.30	16.32	16.56
Nash return	18.77	18.73	18.75	19.01	18.81
Optimum return	25.50	25.48	25.50	25.87	25.58
Age	21.48	21.82	24.84	22.79	22.72
Female	0.49	0.45	0.55	0.38	0.47
Lower SES	0.29	0.37	0.41	0.51	0.40
Cooperative	0.43	0.64	0.61	0.50	0.55
Zero sum thinker	0.26	0.26	0.06	0.13	0.18
Comprehension	3.16	3.24	2.72	2.97	3.03
Present biased	0.72	0.63	0.59	0.64	0.64
Risk averse	0.23	0.28	0.18	0.18	0.22
Info. treatment	0.27	0.18	0.19	0.27	0.23
Obs.	1,028	1,114	1,039	1,038	4,219

Notes: the table reports means by university (and overall); Nash return is the expected return if each player chose the Nash allocation (with integer tokens); (social) optimum return is the expected return if each player allocated all tokens to production; info. treatment indicates the proportion of rounds played after exposure to the information intervention; obs. is the number of valid observations (incentivised rounds $\times$ players).

Source: own elaboration.

regression in the adjacent column.¹⁰ The final two columns report payoffs. ‘Return’ is mean realised per-person payoff, and ‘Loss’ is the efficiency loss, defined as the gap between the realised payoff and the payoff each player would receive under the collectively efficient, no-influence allocation (the social optimum $\pi_j^{SO} = 1.2 e_j + 8 + W/10$ given the fixed aggregate endowment).

Fact 1: Influence spending does not track the prize

Reading across the windfall pairs within each endowment level in Table 2, influence spending is essentially flat: 2.41 to 2.33 at the equal endowment, 3.93 to 4.16 at the high endowment (see Figure 1a); this contrasts Nash predictions that rise steeply over the same range (2.53 to 4.33, and 2.95 to 6.16). The gap column makes this concrete: at the high windfall every unconstrained cell falls far below Nash (gaps of -2.00 and -2.01), not because influence falls but because it remains unchanged while the benchmark climbs. In rounds where a fully-interior equal-endowment equilibrium is

¹⁰ Concretely, we regress the Nash gap $i_j^* - i_j$ against a set of dummy variables representing each unique (e_j, W) combination. Standard errors are clustered by session.

Table 2: Mean allocation patterns and outcomes

Context		Influence								
e_j	W	Saving	Prod.	Mean	(s.d.)	Nash	Gap	(s.e.)	Return	Loss
2	10	0.38	1.06	0.56	(0.74)	2.00	-1.42	(0.03)	4.02	7.38
2	100	0.34	1.06	0.60	(0.74)	2.00	-1.40	(0.03)	7.45	12.95
10	10	2.00	5.60	2.41	(2.47)	2.53	-0.33	(0.10)	12.94	8.06
10	100	1.96	5.71	2.33	(2.45)	4.33	-2.00	(0.12)	20.02	9.98
18	10	3.88	10.19	3.93	(3.67)	2.95	0.98	(0.21)	22.35	8.26
18	100	3.74	10.10	4.16	(3.95)	6.16	-2.01	(0.20)	32.22	7.38

Notes: table shows average allocations across savings, production and influence, with observations grouped by unique combinations of initial endowments (e_j) and windfalls (W); influence spending is compared against the corresponding benchmark Nash prediction; column ‘(s.e.)’ reports the standard error of the difference (gap) from a saturated linear regression; penultimate columns report mean return and efficiency loss per player, where the latter is the gap between their return and the payoff under a collectively efficient no-influence allocation (social optimum).

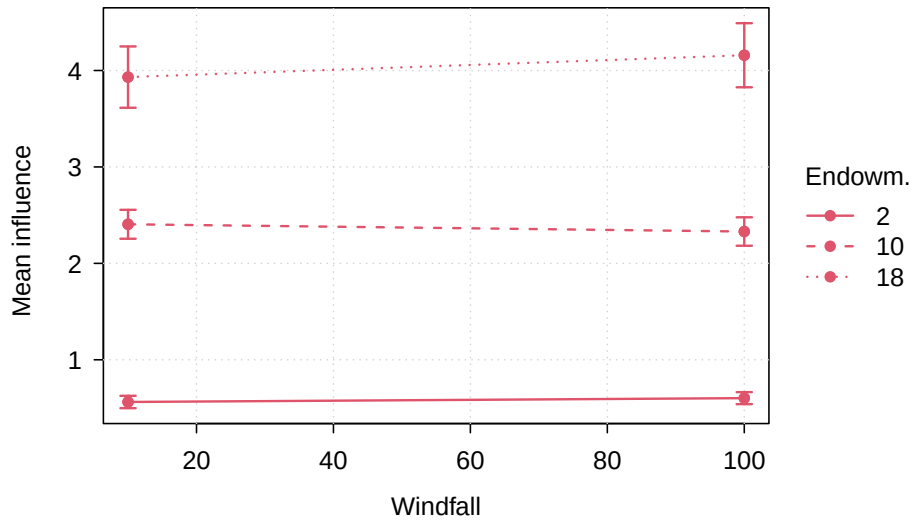
predicted ($e = 10$), influence spending lies modestly below Nash at the lower windfall (-0.33, a 13% shortfall) and far more substantially below at the higher windfall (-2.00, 46%). A joint Wald test of these differences decisively rejects the null that influence spending conforms to the Nash predictions on average. So, even in this setting where budget constraints are not predicted to bind, influence does not respond to the prize.

Our regression estimates make this point sharper. Table 3 reports results from our main specification, equation (7), for the three allocation margins (columns 1–3), the player’s quota of the realised fund (equal to $F \cdot \sigma_j$; column 4), and their final returns (π_j ; column 5). The estimated response of influence to the windfall is 0.016, which is tightly estimated with a 95% confidence interval spanning zero $[-0.014, 0.046]$. Recall that i^* rises from 2.53 to 4.33 as the per-capita windfall rises from 1 to 10, a predicted slope of about 0.20 per per-capita token. Since our interval definitively rules out a slope even a small fraction of that magnitude, we reject the hypothesis that influence responds to the prize, and indeed reject responses far smaller than predicted. The endowment $\times$ windfall interaction is likewise near zero (0.001, $[-0.002, 0.004]$), against a predicted positive value (Appendix B.3). In short, the prize neither raises influence nor steepens the endowment gradient.

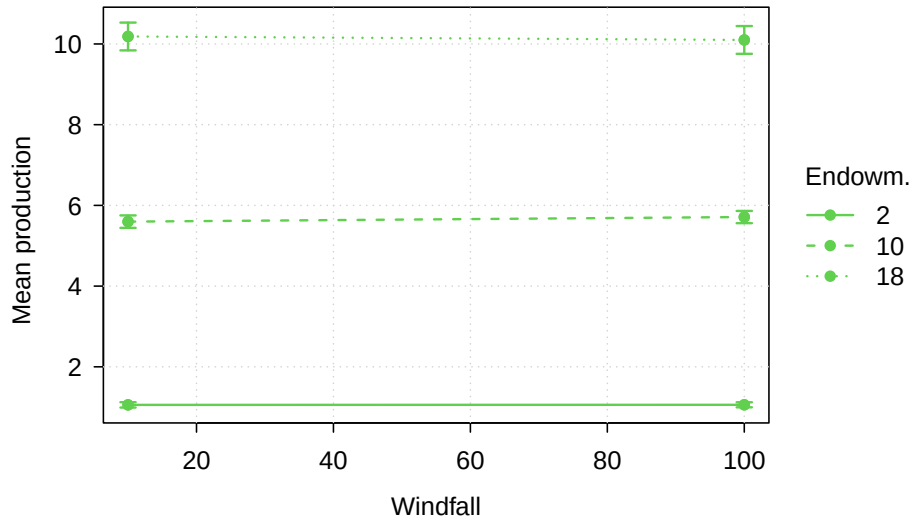
As expected given that spending on influence does not respond to the windfall, exogenous increments to the common fund raise final payoffs strongly. Increases in the prize raise the final fund and the return by around 0.7 per token (columns 4–5), doing so entirely by enlarging the common pot. This captures the welfare implications of prize-insensitivity: a larger windfall makes players better-off through the fund, while allocation behaviour is largely unresponsive. This confirms the pattern evident in the equal-endowment cells of Table 2, where influence stays flat as the windfall rises despite the Nash prediction climbing steeply.

Figure 1: Plots of mean influence and production spending by endowments and windfalls

(a) Influence spending:



(b) Production spending:



Source: own elaboration.

Notes: figure plots estimates from Table 2, showing average spending on (a) influence and (b) production at alternative combinations of endowments and windfalls; error bars give 95% confidence interval for the means.

Table 3: Linear regression estimates of allocations and outcomes

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.241*** (0.020)	0.232*** (0.016)	0.527*** (0.021)	0.281*** (0.036)	1.15*** (0.032)
Windfall	0.016 (0.015)	0.0005 (0.013)	-0.016 (0.017)	0.733*** (0.026)	0.714*** (0.041)
Windfall $\times$ Endowment	0.001 (0.001)	-0.0008 (0.001)	-0.0003 (0.001)	0.046*** (0.002)	0.045*** (0.002)
Windfall $\times$ Round	-0.003 (0.003)	-0.002 (0.003)	0.005 (0.003)	0.007 (0.005)	0.011 (0.008)
Info. treatment	-0.474** (0.206)	-0.068 (0.129)	0.543** (0.212)	0.759** (0.301)	1.34** (0.539)
Endowment $\times$ Round	-0.007* (0.003)	-0.003 (0.003)	0.009*** (0.003)	-0.009 (0.007)	-0.0004 (0.006)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.524	0.555	0.747	0.564	0.828
Within R ²	0.274	0.370	0.696	0.427	0.810
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table follows equation (7); all variables are expressed in per player equivalent terms; endowment and windfall are centered; ‘info. treatment’ takes a value of one in rounds 5-8 of sessions exposed to the information treatment; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

The corresponding session-by-round aggregate estimates, which follow equation (8), are reported in Appendix Table A2. These confirm the same findings at the group level. The windfall leaves aggregate influence unmoved ($\hat{\beta}_2 = 0.009$) while raising the realised fund and return (also around 0.7 per token). The one feature specific to this specification is the collapse in explanatory power for the allocation margins after controlling for fixed-effects: the within- R^2 for influence, saving and production drops to under 0.05 (columns 1–3), against 0.27–0.70 in the individual-level estimates. Once the session and round fixed effects are removed, the design factors explain almost none of the round-to-round variation in aggregate allocations, which is precisely what a proportional rule implies. If players route fixed shares of their endowments regardless of the windfall, aggregate allocations are pinned by the (fixed) total endowment and move little with the treatments, so there is little systematic variation left for the regressors to capture. The contrast with the fund and return columns (within- R^2 of 0.90 and 0.78), where the windfall and treatment do bite, underlines that the action is in payoffs, not in any prize-responsiveness of the allocations themselves.

Fact 2: Allocations follow a stable proportional rule

Reading down each windfall block in Table 2, influence rises with endowment at a near-constant rate — roughly a quarter of each additional token — and production and saving all rise alongside it in roughly fixed proportions. This provides a clear indication that players tend to spend proportionally across the three margins, thereby diverging from the prediction under optimisation. The regressions confirm this pattern, pinning down its magnitude. Consider the endowment response (P2) in Table 3. The coefficient on endowment in the influence column is 0.24 and is precisely estimated, sitting roughly four times the magnitude under the optimising benchmark – recall that influence among unconstrained players should be near flat in endowment, with the only predicted gradient arising from the binding budget corner, giving a predicted slope of approximately 0.05 at the low endowment. Allocation behaviour exhibits a far steeper and near-uniform proportional response.

The same pattern is visible across all three margins: a marginal token is split 0.53:0.24:0.23 across production, influence and saving, reflecting a proportional rule. This split also fails the mirror corollary of P1 and P2. Under optimisation the production and influence endowment slopes should sum to one (saving absorbing none of the marginal token); here they sum to 0.77, the shortfall being exactly the endowment-saving gradient.

The regularity of the proportional rule is confirmed by re-estimating allocations and outcomes as endowment shares, reported in Appendix Table A3. In these estimates the constant recovers the average split, and the covariates test whether that split moves with aspects of the environment or with player characteristics.¹¹ The former estimates recover influence, saving and production shares of 0.17, 0.19 and 0.64 respectively. Crucially, these shares appear to be invariant to the windfall – the coefficient on the (centred) windfall is indistinguishable from zero on all three margins, so the prize does not shift the composition of spending. Likewise, the rule is largely invariant to player characteristics. Neither cooperative disposition, gender, nor risk aversion moves the influence share; and game comprehension is null on influence. The two attitudinal predictors to register are zero-sum orientation, which carries a small positive influence share (+0.03), consistent with the conjecture of Savikhin and Sheremeta (2013) that competitively-oriented participants rent-seek somewhat more; and trust, with a similar-sized positive coefficient. However, the effects here are modest and do not disturb the overall stability of the allocation proportions. The endowment dummies show a small compositional tilt: relative to the reference endowment of ten, low-endowment players devote a slightly larger share to influence (+0.05) and high-endowment players a slightly smaller one (−0.01), with the mirror movement in the direction of saving. Finally, the windfall × round interaction is precisely zero on every margin, confirming that the shares do not converge toward the equilibrium as the session proceeds.

The proportional rule is not only stable in the cross-section and across rounds on average, it also is

¹¹ To recover the constants (average shares), individual fixed-effects are omitted; round, session, course type and starting year fixed-effects remain included.

anchored at the individual level. To show this, we relate each participant's allocation shares in the incentivised rounds (rounds 1–8) to their own average shares in the two trial rounds, which we treat as a person-specific baseline. For each margin, we then regress the round- t share on the participant's own baseline share in that margin *and* on their baseline share in a second margin (the third being the omitted reference), together with lagged shares, the design covariates, and other fixed-effects (see Table 4). Three features stand out. First, each share loads almost entirely on its *own* baseline: the own-baseline coefficients are 1.16 (influence), 1.13 (saving) and 1.11 (production), while the cross-baseline coefficients are small and statistically indistinguishable from zero. So, a participant's early tendency in one activity carries no independent information about their later allocation to another. Second, the own-baseline coefficients slightly exceed unity, so that differences between participants present in the opening rounds are, if anything, mildly amplified rather than eroded as play proceeds — the opposite of reversion toward a common mean that noisy first impressions might generate. However, third, this amplification is dampened by the negative coefficients on own-share lagged allocations. Thus, the individual-level evidence suggests that the proportional split is a fairly durable, person-specific rule rather than a population regularity that averages out heterogeneous or drifting behaviour.

Fact 3: The proportional rule is regressive

The efficiency loss associated with the observed pattern of spending is not only large but also regressively distributed. On average, realised payoffs fall roughly a third short of the efficient optimum, even though agents rent-seek less intensely than the equilibrium predicts. Yet, this loss is not borne evenly. As a share of own efficient payoffs, it falls monotonically with endowment: from around 63–65 percent for the low-endowment players, to 33–38 percent at the equal endowment, to 19–27 percent for the rich (Table 2). The explanation for this difference is structural. Where the windfall is large, a poor player's payoff is mostly their share of the common fund, which influence erodes; while a rich player is cushioned by a large(r) absolute private return on their own production, which rent-seeking leaves untouched. So, in this game, rent-seeking over a common pool falls hardest on those who depend on it most.

This loss operates through two channels: tokens withheld from production into saving, which forgoes the private return and a positive externality in building the fund; and tokens spent on influence, which erode the common fund. But the two are not independent – both follow from the same proportional rule – but they differ in one policy-relevant respect. The information treatment moves the influence margin sharply (-0.47 ; see below) while leaving saving unchanged (-0.068 , insignificant; Table 3). The recoverable part of the loss is therefore the rent-seeking channel: salience acts on influence, the margin that carries the externality, not on the privately-costly but non-external saving margin. The regressive incidence, too, operates through the fund that influence erodes, not through saving.

Table 4: Linear regression estimates of allocation and outcome shares

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Influence base	1.16*** (0.027)	0.011 (0.020)	-0.036 (0.026)	2.71*** (0.174)	1.54*** (0.163)
Production base	0.022 (0.022)		1.11*** (0.029)	-0.069 (0.107)	0.130 (0.098)
Saving base		1.13*** (0.021)			
Influence (t-1)	-0.067*** (0.023)	-0.007 (0.017)	0.007 (0.024)	-0.189** (0.080)	-0.121* (0.072)
Production (t-1)	-0.024 (0.020)		-0.044* (0.026)	-0.039 (0.066)	-0.025 (0.059)
Saving (t-1)		-0.067*** (0.021)			
Endowment	-0.002** (0.0007)	0.002*** (0.0006)	-7.61×10^{-5} (0.0009)	-0.019*** (0.002)	-0.017*** (0.002)
Windfall	0.0003 (0.0008)	-0.0010** (0.0004)	0.0007 (0.0007)	0.103*** (0.004)	0.103*** (0.004)
Low endowment	0.041*** (0.013)	-0.004 (0.011)	-0.036** (0.015)	1.14*** (0.091)	1.09*** (0.092)
Info. treatment	-0.042* (0.023)	0.0004 (0.013)	0.041* (0.023)	0.166** (0.080)	0.216** (0.094)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.383	0.340	0.339	0.539	0.572
Within R ²	0.336	0.306	0.289	0.517	0.531
Round fixed effects	Yes	Yes	Yes	Yes	Yes
Session fixed effects	Yes	Yes	Yes	Yes	Yes
Course fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table reports estimates of allocations and outcomes as shares of endowments; explanatory variables include mean shares from practice rounds, as well as prior round lags; endowment and windfall are centered and expressed in per player terms; 'info. treatment' takes a value of one in rounds 5-8 of sessions exposed to the information treatment; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Fact 4: Behaviour responds to salience, not to incentives

The information treatment produces a behavioural shift that optimisation predicts should not occur (P4). Treated rounds see influence fall by 0.47 and production rise by 0.54, with no significant change in saving, leading the realised return to rise by 1.34 tokens (Table 3). Decomposing the return gain through the payoff identity $\pi_j = m(1 - \lambda)p_j + s_j + F\sigma_j$ locates its source: the reallocation toward production contributes $1.2 \times 0.54 \approx 0.65$, while the larger part operates through the final fund (column 4: +0.76), reflecting the reduced erosion of the common pool. Most of the welfare gain from the intervention is therefore a recovery of collective value — the externality channel — rather than a private reallocation, which is precisely what a treatment that raises the salience of collective costs should deliver.

The same shift is visible at the group level. In the aggregate specification (Table A2), the information treatment moves the group sharply out of influence and into production (−4.7 and +5.6 tokens at the session level), recovering an estimated 14.0 tokens of collective return per session. That the prize does not move behaviour while a payoff-neutral change in salience does is the central asymmetry of the paper, and it is the point of departure for the interpretation that follows.

5.3 Interpretation

Reviewing potential explanations for the above findings, a first theory is that the proportional rule simply reflects a naïve initial response that is later modified through learning. Table 3 provides preliminary evidence to the contrary – interactions between the endowment and windfall with the round sequence number are negligible, suggesting no systematic evolution of spending over time. A dynamic specification, reported in Appendix Table A4, adds insights. Similar to Table 4, these estimates include lagged observations of the three allocation margins, as well as the total return.¹² The flat response of allocation decisions to the size of the windfall across all three margins remains evident, as is a strong positive (negative) production (influence) response to the information treatment. The presence of a robust proportional allocation rule is supported by the non-trivial magnitude of temporal persistence in allocation patterns across rounds. The strongest auto-correlation coefficients are estimated for savings (+0.27) and influence (+0.25), indicating that players tend to repeat their previous allocations rather than revise them toward the optimum. This supports a systematic pattern of rule-following, rather than convergence, and one that — for the dominated saving margin in particular — is difficult to reconcile with the Nash benchmark.

To explore this further, we leverage the two-block design, in which each within-session treatment

¹² For the first incentivised round (round 1), observations from the second practice round are used. The lagged final fund is excluded from the specification not only since it is a linear combination of the other lagged variables, but also because it is not directly observed by the players. To avoid Nickell bias, we drop the individual fixed-effects and replace them with session and course fixed-effects. Individual controls for gender, age and SES status are also included, but not shown.

cell is encountered twice over the 8 rounds. Comparing individual behaviour in the same block across its first and second visit, holding the person and endowment position fixed (i.e., focussing on the equal-endowment cells, A and B), influence spending on the second visit is indistinguishable from the first (the coefficient on the block sequence dummy is not significant; Appendix Table A5), and the windfall response does not strengthen with experience. If anything, it is marginally negative. This shows that behaviour does not converge toward the Nash response over repeated exposure.¹³

A second argument is that the influence–endowment gradient is an artefact of the budget constraint, not a behavioural regularity. Under Regime 2 of P2, the poor are pinned at $i_L = e_L$ and the resulting redistribution pulls the rich above i^* , which could manufacture an apparent endowment response purely from the corner. Two features of the data rule this out. First, the response is *linear* across the entire endowment range and is already present at the lowest endowment: a corner mechanism would generate a kinked, non-linear pattern — mechanical at the constrained low end and steeper among the unconstrained rich — not the smooth, constant slope that is observed. Table A7 (Appendix, replacing the linear endowment term with low/high dummies) shows the influence response is large and symmetric at both ends (−1.80 for the low endowment, +1.65 for the high), rather than concentrated where the constraint binds. Second, the gradient survives at the lowest windfall, where i^* is smallest and the corner least relevant: restricting to $W = 10$ rounds (Table A8, Appendix), the influence–endowment slope is 0.226, essentially unchanged from the pooled estimate. A budget corner cannot produce a linear slope that operates among the least-constrained players; but a proportional rule does exactly that.

Third, the proportional spending pattern cannot be attributed to confusion. On the one hand, most participants demonstrably understood the environment: 43% answered all four comprehension questions correctly, and 75% answered at least three of four. On the other hand, participants do respond, sharply and in the predicted direction, to a change in the environment — the information treatment — which a genuinely confused player would not do (see above). Furthermore, confusion would likely manifest as noise, not as a highly systematic, stable, and directionally-consistent proportional pattern, as observed. And, perhaps most tellingly, the saving result is a diagnostic that is immune to confusion about the influence decision: saving is strictly dominated regardless of what anyone else does, its optimum ($s_j = 0$) requires no equilibrium reasoning, and yet participants hold a stable positive share in saving throughout. A player confused about the interior influence optimum might plausibly err on influence; but persistent allocation to a strictly dominated action cannot be explained by difficulty in computing the Nash fixed point. The saving margin thus isolates non-optimisation from confusion about the contest.

¹³ See Table A6 for the equivalent full sample results, which show a small but statistically significant level increase in influence spending in the second block (+0.34). This shift is absent in the equal-endowment estimates (Table A5), where endowment position is unchanged across halves, and so is driven by the switch in endowment positions between blocks in the unequal cells — the asymmetric adjustment of players moving to the high and low endowments, the latter constrained near the budget floor — rather than with any change in behaviour over time.

Two further clarifications forestall possible objections. First, persistent dominated saving is not a second, separate anomaly competing with the influence result; it is the mark of a proportional rule along the third margin. The rule that keeps influence flat as the prize varies is the same rule that retains a roughly fixed share in saving. Reading the saving share as independent ‘confusion’ would require the influence pattern to be confusion too; but influence responds sharply and correctly to the salience intervention. Second, as already noted, saving is dominated in a way that requires no strategic reasoning, which is precisely what makes it a diagnostic check. This rules out any explanation based on risk aversion or naïve diversification. Saving is dominated not merely in expectation but state-by-state – saving returns exactly one token per token in every contingency, whereas production returns $m(1 - \lambda) = 1.2$ privately with certainty, meaning there is no risk associated with spending on production over saving. And no realisation of others’ play makes saving a better choice. A risk-averse or diversifying agent hedges across gambles with uncertain, potentially higher payoffs, but not into an option that is worse in every state.

It also bears on a long-standing difficulty in the public-goods literature, and marks a methodological contribution of the design. In the canonical linear public good game the dilemma has a single channel and a corner solution: contributions help the group, the Nash prediction is zero, and the social optimum is full contribution. Because every departure from this benchmark pushes contributions above the zero-Nash, confusion and genuine cooperation are observationally entangled, and the field has relied on responsiveness to the marginal per-capita return to separate them — itself a contested test. Our multi-channel setting avoids this entanglement in two ways. The optimising prediction is an interior allocation that varies with the prize, so deviations are not all of one sign and confusion mimics no particular pattern. And the strictly-dominated saving margin provides a diagnostic of non-optimisation that is independent of the influence decision and orthogonal to the dilemma itself. The proportional rule is therefore identifiable *as* a rule, rather than confounded with confusion, in a way the single-channel public good does not permit.

To give empirical support to these arguments, Table 5 interacts the key regressors with a standardised measure of game comprehension. Table A9 restricts the sample to “engaged” players, defined as those who saved no more than 20% of their endowment in either practice round; and Table A10 restricts to students of quantitative or business courses. Across all three tables the estimates are close to the main specification: the endowment slope on influence remains near 0.21–0.26, the windfall coefficient remains null, and the information treatment retains its sign and magnitude. Comprehension does not interact meaningfully with the endowment gradient or the treatment. The single detectable exception is a small positive comprehension $\times$ windfall coefficient on influence (+0.015, Table 5); but its magnitude is trivial — even for the highest-scoring participants it implies a prize response of at most $9 \times 0.881 \times 0.015 \approx 0.12$ tokens across the full windfall range, against a Nash-predicted increase of nearly two tokens. In short, even the most able participants barely respond to the prize, suggesting this insensitivity is not a comprehension failure that better understanding could dissolve.

Table 5: Estimates of allocations and outcomes, by comprehension score

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.210*** (0.013)	0.220*** (0.010)	0.570*** (0.014)	0.240*** (0.009)	1.14*** (0.015)
Windfall	0.001 (0.008)	-0.006 (0.005)	0.005 (0.007)	0.765*** (0.016)	0.765*** (0.023)
Info. treatment	-0.480** (0.203)	-0.059 (0.132)	0.540** (0.208)	0.772** (0.296)	1.36** (0.529)
Windfall $\times$ Endowment	0.001 (0.001)	-0.0008 (0.001)	-0.0004 (0.001)	0.046*** (0.002)	0.045*** (0.002)
Comprehension $\times$ Windfall	0.015** (0.007)	-0.008* (0.005)	-0.006 (0.008)	0.023 (0.018)	0.007 (0.015)
Comprehension $\times$ Endowment	-0.003 (0.008)	-0.018* (0.009)	0.020** (0.010)	0.011 (0.016)	0.018 (0.012)
Comprehension $\times$ Info. treatment	-0.078 (0.149)	-0.074 (0.121)	0.152 (0.142)	-0.095 (0.231)	0.013 (0.173)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.524	0.557	0.748	0.564	0.828
Within R ²	0.274	0.373	0.697	0.427	0.810
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: this table mirrors Table 3, interacting key explanatory variables with a standardized measure of game comprehension; standard-errors clustered by session in parentheses; round interactions and observations from practice rounds omitted.

Source: own elaboration.

Last, a sceptical reader might attribute the proportional rule to a priming effect — e.g., participants, unsure how to play, divide their tokens in roughly fixed shares in response to some prior stimulus. A natural candidate would be the pair of worked examples in the instructions, in which players allocate five tokens to production and five to saving (with influence used by only one player, in the second example). A reader may worry that this equal production–saving split anchors the allocation patterns observed in the data. However, the worked examples do not support such an interpretation. Pedagogically, they clearly demonstrate that production always dominates saving: Example 1 shows that five tokens placed in production return six directly to the player and add further tokens to the common fund, whereas five tokens saved return exactly five and contribute no collective value. The instructions label production as value-creating (*cria valor*) and saving as value-preserving (*mantém o seu valor*), and the worked payoffs make the ranking explicit: each player in Example 1 receives six from production before any fund share. This is described as a ‘return of 120%’ and is compared to the five returned from saving. Participants therefore did not encounter saving as an attractive or neutral option to be imitated. On the contrary, they were shown, arithmetically and before play began, that it is inferior token-for-token to production.

This disposes of the view that priming accounts for non-zero savings. It also sharpens the case against confusion. The persistence of a stable positive share allocated to savings occurs despite an explicit numerical rather than just theoretical demonstration of its inferiority. A player who saves after being walked through a worked example in which production plainly out-returns saving is not failing to solve a difficult optimisation; they are setting aside a dominance relation that had been explicitly resolved on their behalf. Nor can the examples account for any of the other results on which our argument rests. The examples use a fixed endowment and fund windfall, and so cannot prime the insensitivity of influence to the prize, its proportional response to endowment, or the shift induced by the information treatment. An anchor on a fixed illustration speaks, at most, to allocation levels at one endowment; it is silent on the responsiveness to treatments that constitutes a main finding. Thus, the proportional rule is something that participants appear to bring to the game, not a template taken from the instructions.

What, then, might account for the proportional rule? We read it as the application of heuristic reasoning that stands in for an optimising response that is cognitively inaccessible. This is not because the decision-making environment is opaque — the primitives are fully legible, and most participants understand them — but that the mapping from those primitives to the best response cannot be performed. In our setting the prize is endogenous as the fund is simultaneously expanded by production and eroded by influence. So, its equilibrium value is a function of the allocations to be chosen, meaning the optimal influence cannot be read from either the initial fund or the announced windfall. Rather, it must be solved for jointly with rivals' choices and the equilibrium size of the fund, as an interior fixed point. This is a computation that participants who demonstrably understand the game neither perform nor approximate. We do not observe that influence drifts toward the equilibrium as the session proceeds; or that saving falls to zero. This is consistent with (but not direct proof of) cognitive inaccessibility: behaviour does not track the prize, that this is not attributable to hidden information, confusion, or risk aversion, and that it does not resolve with experience within our horizon.

Critically, cognitive inaccessibility of the best response is not an incidental feature of the game but constitutive of rent-seeking qua optimisation. For rent-seeking to settle at an interior level, the marginal return to influence must balance against its marginal cost; this requires that at that optimum the net marginal return is a small difference between two opposing forces — here, the gain in one's share of the prize, against the foregone production and erosion of the fund's value. The quantity a participant would need to perceive in order to optimise is precisely this vanishing difference, which is the least legible signal the environment offers. Indeed, the marginal return to influence is even ambiguous in *direction*: a larger windfall raises both the value of capturing a share and the value destroyed by contesting it, so whether optimal influence should rise or fall is not something that can be read off, but the content of a comparative-static result (Appendix B.4). Confronted with a best response that is well-defined but not computable in situ, participants fall back on a simple heuristic — spending a fixed proportion of the endowment across the margins. This is in the spirit of the kind of fast-and-frugal heuristics that have been widely documented in other contexts where

optimisation exceeds cognitive reach (Benartzi and Thaler, 2001; Thaler, 1999). In an individual allocation problem such a rule is typically benign; but in a common-pool contest it is not, because a rule insensitive to the prize is equally insensitive to the externality, and sustains the substantial, regressive dissipation documented above.

6 Conclusion

This paper set out to test a core behavioural premise on which a large tradition in economics rests: that rent-seeking is an optimising response to the returns it offers, so that the intensity of rent-seeking tracks the size of the prize at stake. Although this premise underpins the allocation-of-talent literature descending from Baumol, it has rarely been examined at the level of individual decision-making, in part because equilibrium data cannot separate a rent-seeker who responds to returns from one who follows a fixed rule. To do so, we implemented a lab experiment in Mozambique whereby participants allocate an endowment among production, influence, and saving, in a contest over a common pool whose value is built by production and eroded by influence. In this setting we varied the prize exogenously to observe whether rent-seeking responds as predicted.

We find it does not. Individual rent-seeking is insensitive to the prize: a tenfold increase in the windfall leaves influence spending essentially unchanged, against an optimising prediction that it should rise steeply. Instead, participants allocate a stable proportion of their endowment to each activity — roughly 56:23:20 across production, influence, and saving (on average) — a rule that holds across rounds, campuses, comprehension levels, and dispositions, extends to the strictly dominated saving margin, and shows no drift toward the equilibrium over the rounds played. As such, the departure from optimisation does not appear to reflect a poorly calibrated or confused response to returns, but rather a behavioural insensitivity to them. The welfare cost of this pattern also is large — realised returns fall roughly a third short of the efficient optimum and are regressively distributed, consuming close to two-thirds of the efficient payoff of the resource-poor against a fifth for the resource-rich, because the poor depend most on the common fund that influence erodes. The one manipulation that moves behaviour, but changes none of the formal payoffs, is to make the collective cost of influence salient. we find this significantly reduces rent-seeking and recovers a substantial part of the lost value.

For the literature, these results pinpoint where the failure of the optimising benchmark is located. Rent-seeking here departs from Nash not through the over-dissipation that characterises much of the contest-experiment literature, but through a failure to respond to the prize at all — a pattern that standard fixed-prize contests, where the direction of the optimal response is transparent, do not exhibit. What distinguishes our setting is that the prize is endogenous, so that the marginal return to influence is ambiguous even in sign, and the interior best response is not something participants can compute from the legible primitives. The behaviour is better read as the application of a fast-

and-frugal heuristic where optimisation is cognitively inaccessible not as noisy optimisation. This also clarifies what the allocation-of-talent tradition implicitly assumes at a microeconomic level: not merely that the returns to rent-seeking are legible, but that the best response to them is in some way computable — an assumption our design isolates and finds wanting. The multi-channel structure, and in particular the dominated saving margin, further offers a way to separate rule-following from confusion that the single-channel public-goods paradigm cannot.

The policy implication runs against some standard prescriptions. If the intensity of rent-seeking in certain environments is governed by a fixed heuristic rather than (marginal) returns, then levers that operate on these returns — e.g., institutional or fiscal reforms that lower the payoffs to capture — may not be so decisive. Our findings suggest that what moves a heuristic is not the marginal return *per se*, which may remain cognitively inaccessible, but the salience of its consequences. The information intervention shows this directly: a brief, payoff-neutral demonstration of the collective cost of influence reduces rent-seeking and recovers welfare, where changing the prize does not. This suggests salience and attention, rather than relative returns, is a relevant feature of policy design. It also may be more actionable in low-capacity settings where return-based reform is hardest, and sits alongside other evidence that interventions designed to work with simple decision rules can outperform those presuming sophisticated optimisation. However, two caveats nuance this claim. Our evidence concerns the intensive margin of rent-seeking among participants already engaged in it, not the extensive decision of whether to rent-seek at all; and the windfall still shapes welfare mechanically, by enlarging the pool at stake, which speaks to the collective costs of rent-seeking. Whether this insensitivity extends to higher-stakes, longer-horizons, or field settings — and how durable the salience effect proves outside a laboratory — are questions we leave to further work.

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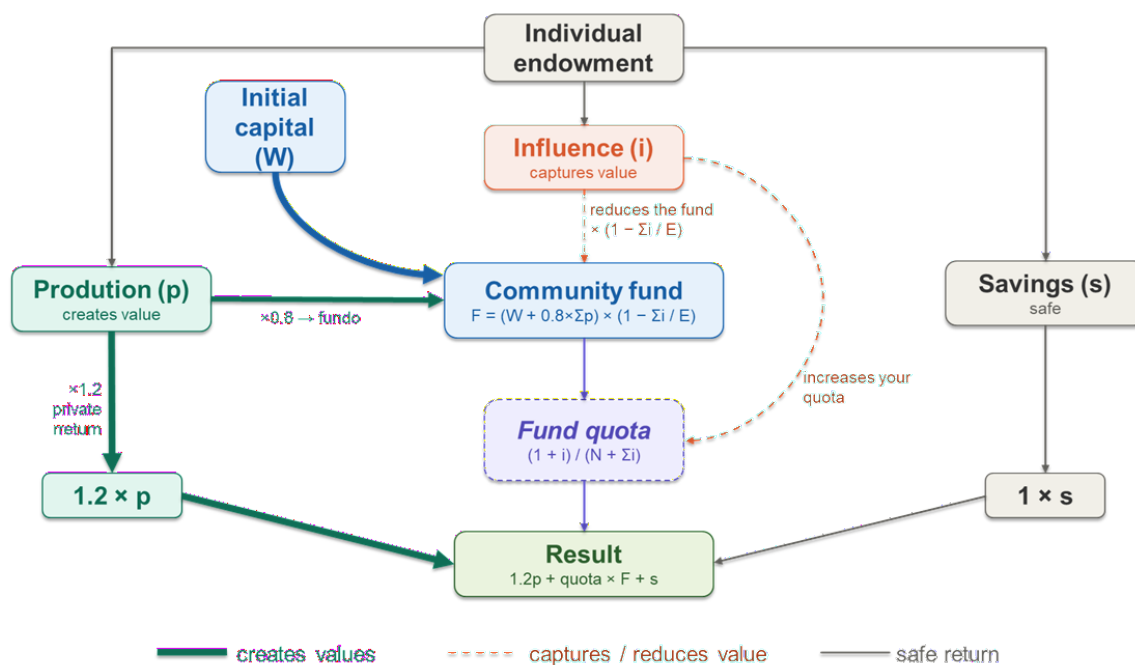
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A Additional exhibits

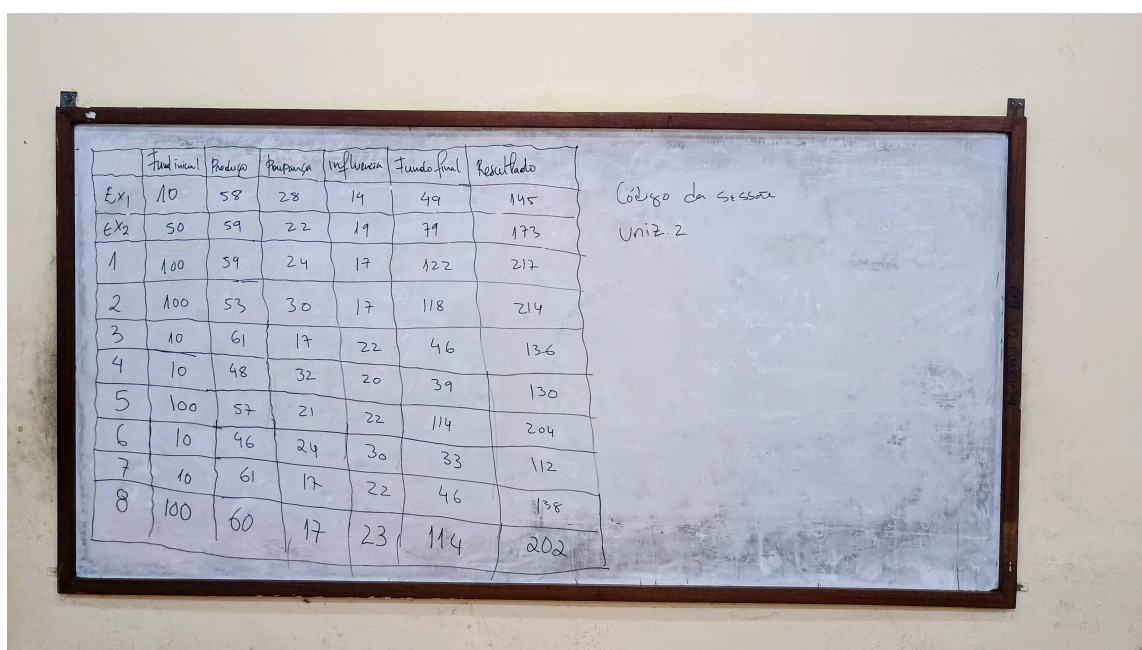
Figure A1: Illustration of game mechanics



Source: own elaboration.

Notes: figure reproduces (in English) the reference graphic provided as part of the written instructions to participants, seeking to show how individual allocation decisions in each round determine their payoffs.

Figure A2: Example of public information structure



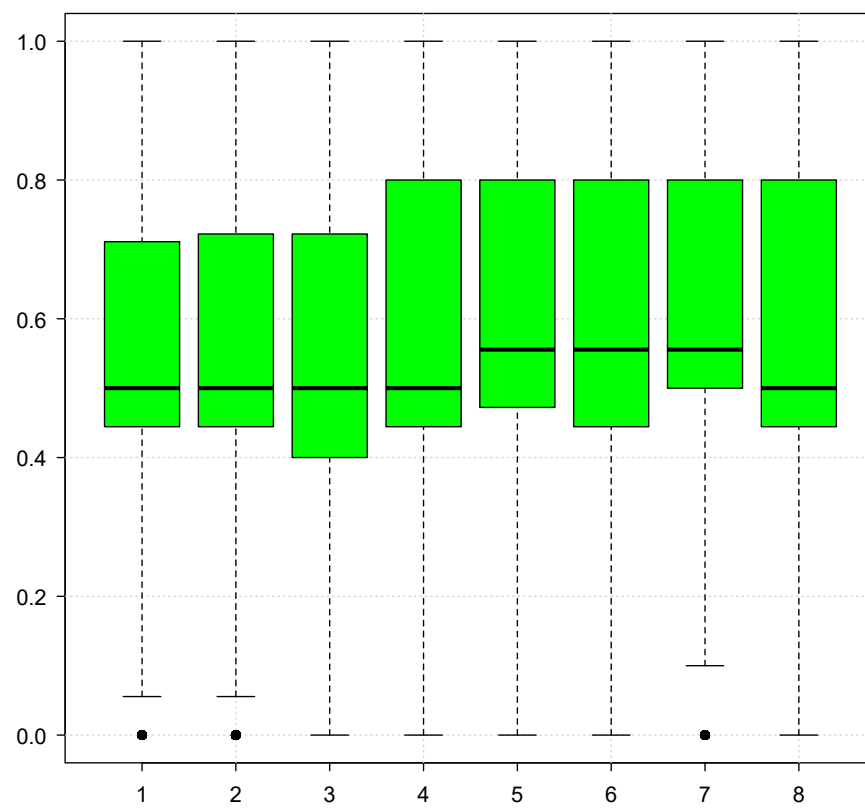
	Fundo inicial	Produção	Poupança	Influência	Fundo final	Resultado
Ex1	10	58	28	19	49	145
Ex2	50	59	22	19	79	173
1	100	59	24	17	122	212
2	100	53	30	17	118	214
3	10	61	17	22	46	136
4	10	48	32	20	39	130
5	100	57	21	22	114	204
6	10	46	24	30	33	112
7	10	61	17	22	46	138
8	100	60	17	23	114	202

Código da sessão
Uniz. 2

Source: own elaboration.

Notes: the photo shows public information provided to participants during a typical session; the photo was taken at the end of a session, and shows the initial fund, aggregate production, saving and influence, as well as the final fund size and the aggregate payoff; each row is a different round; the first two rounds are practice rounds; all outcomes rounded to the nearest integer.

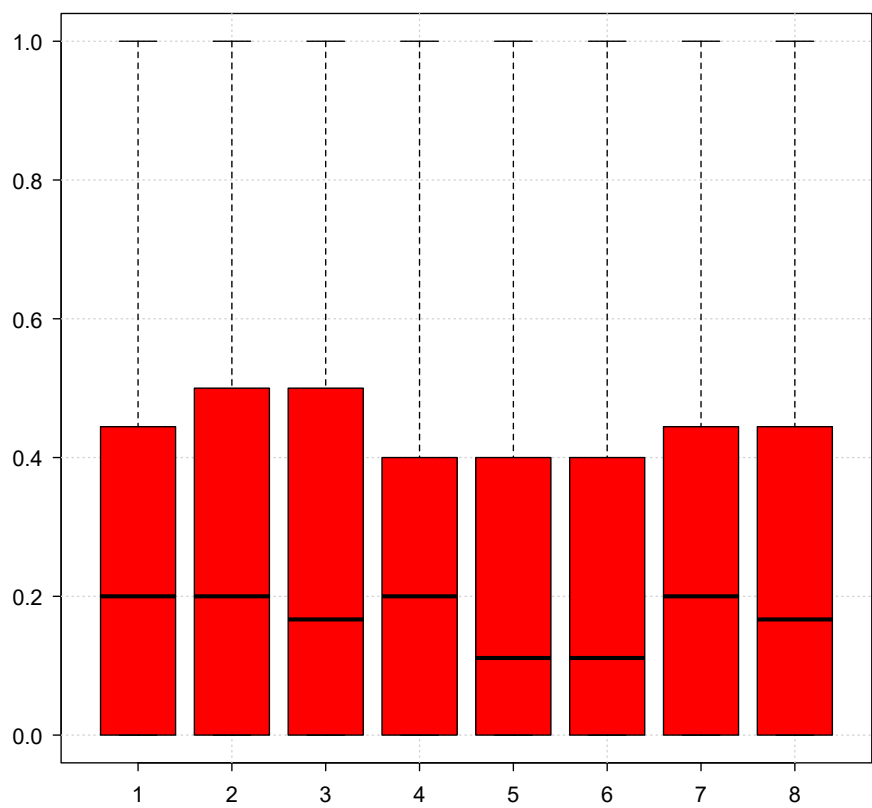
Figure A3: Box plots of production shares across rounds (1-8)



Source: own elaboration.

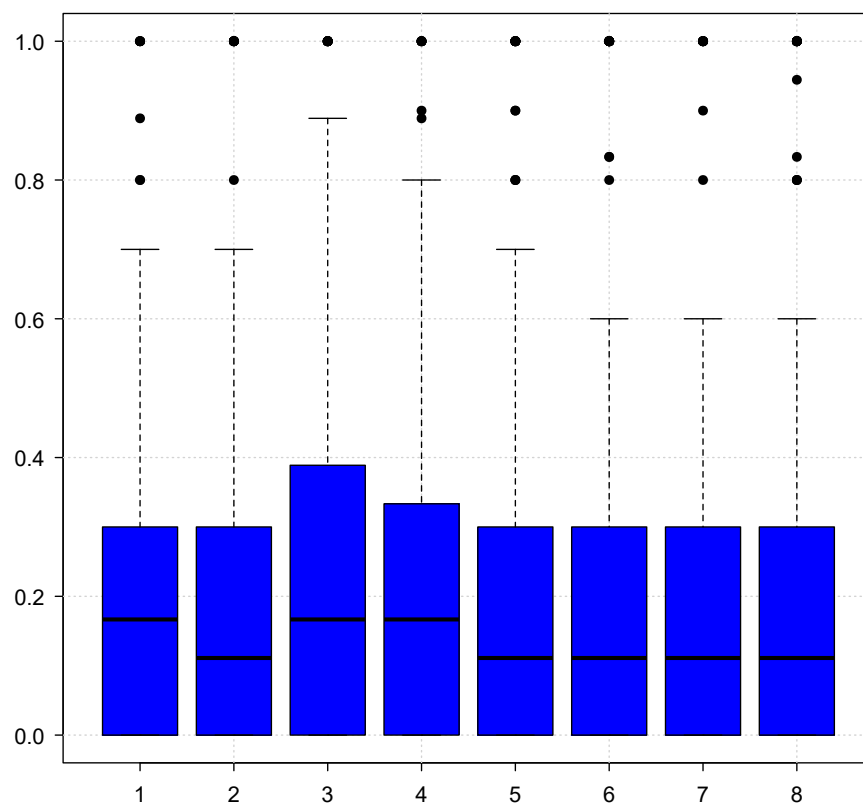
Notes: figure shows the share of tokens allocated to production across each round in sequence; only incentivised rounds shown.

Figure A4: Box plots of influence shares across rounds (1-8)



Source: own elaboration.
Notes: figure shows the share of tokens allocated to influence across each round in sequence; only incentivised rounds shown.

Figure A5: Box plots of saving shares across rounds (1-8)



Source: own elaboration.

Notes: figure shows the share of tokens allocated to savings across each round in sequence; only incentivised rounds shown.

Table A1: Within-session treatment cells

	$W = 10$	$W = 100$
Equal ($e_j = 10$ for all j)	Cell A	Cell B
Unequal ($e_L = 2, e_H = 18$)	Cell C	Cell D

Notes: table summarises the within-session treatment blocks, defined by variation in the windfall (W) and endowment equality.

Table A2: Aggregate estimates of allocations and outcomes

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Unequal	-1.90 (1.46)	0.868 (1.36)	1.29 (1.68)	2.62 (2.20)	5.04 (3.77)
Windfall	0.009 (0.018)	0.003 (0.014)	-0.010 (0.019)	0.738*** (0.030)	0.728*** (0.048)
Info. treatment	-4.58** (2.06)	-0.577 (1.32)	5.48** (2.12)	7.67** (3.05)	13.7** (5.43)
Windfall $\times$ Unequal	0.014 (0.016)	-0.004 (0.009)	-0.011 (0.015)	-0.014 (0.026)	-0.031 (0.044)
Windfall $\times$ Round	-0.003 (0.003)	-0.001 (0.003)	0.004 (0.004)	0.008 (0.005)	0.011 (0.008)
Unequal $\times$ Round	0.097 (0.262)	0.088 (0.265)	-0.235 (0.340)	-0.348 (0.464)	-0.542 (0.761)
Observations	417	417	417	417	417
R ²	0.554	0.448	0.531	0.915	0.824
Within R ²	0.039	0.018	0.044	0.905	0.777
Session fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table follows equation (8), showing allocations and outcomes at the session-by-round level; all variables corresponding to tokens are round-wise totals; windfall is centered at 10; total endowment is fixed; ‘treated round’ takes a value of one in rounds 5-8 of sessions exposed to the information treatment; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A3: Linear regression estimates of relative allocations and outcomes

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Constant	0.182*** (0.033)	0.192*** (0.022)	0.626*** (0.032)	0.219** (0.098)	1.16*** (0.083)
Low endowment	0.054*** (0.011)	-0.018* (0.010)	-0.036** (0.013)	1.30*** (0.096)	1.23*** (0.092)
High endowment	-0.013** (0.006)	0.014** (0.005)	-0.001 (0.007)	-0.149*** (0.013)	-0.136*** (0.018)
Windfall	0.0010 (0.002)	-0.002 (0.001)	0.0008 (0.002)	0.095*** (0.008)	0.094*** (0.009)
Info. treatment	-0.041* (0.022)	0.0007 (0.012)	0.040* (0.022)	0.163* (0.082)	0.212** (0.098)
Female	-0.013 (0.020)	0.018 (0.013)	-0.005 (0.016)	-0.057 (0.046)	-0.045 (0.028)
Cooperative	0.002 (0.014)	-0.013 (0.012)	0.011 (0.014)	0.007 (0.035)	0.006 (0.023)
Zero sum thinker	0.034* (0.018)	-0.018 (0.016)	-0.015 (0.018)	0.068 (0.050)	0.031 (0.034)
Comprehension	0.001 (0.008)	-0.016*** (0.006)	0.015** (0.007)	0.004 (0.022)	0.006 (0.014)
Trusting	-0.034* (0.017)	0.005 (0.012)	0.029 (0.018)	-0.099** (0.046)	-0.060* (0.030)
Risk averse	0.019 (0.020)	0.005 (0.013)	-0.024 (0.019)	0.018 (0.048)	-0.006 (0.028)
Windfall × Round	-0.0001 (0.0003)	0.0002 (0.0003)	-2.78×10^{-5} (0.0004)	0.002 (0.002)	0.002 (0.002)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.093	0.075	0.089	0.450	0.544
Adjusted R ²	0.072	0.053	0.068	0.437	0.533

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table reports regressions of allocation and outcomes as shares of endowments; windfall is centered; round, session and starting year dummy variables included; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A4: Dynamic regression estimates of allocations and outcomes

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.213*** (0.013)	0.221*** (0.010)	0.567*** (0.014)	0.239*** (0.010)	1.14*** (0.016)
Windfall	0.004 (0.009)	-0.007 (0.006)	0.003 (0.008)	0.786*** (0.016)	0.782*** (0.024)
Info. treatment	-0.374** (0.156)	-0.073 (0.104)	0.447*** (0.161)	1.11*** (0.364)	1.57*** (0.528)
Endowment $\times$ Windfall	0.0008 (0.001)	-0.0007 (0.001)	-8.14×10^{-5} (0.001)	0.046*** (0.002)	0.046*** (0.002)
Influence $_{t-1}$	0.251*** (0.027)	-0.076*** (0.018)	-0.176*** (0.024)	0.357*** (0.054)	0.071 (0.049)
Saving $_{t-1}$	-0.110*** (0.024)	0.267*** (0.031)	-0.157*** (0.026)	-0.290*** (0.043)	-0.211*** (0.030)
Production $_{t-1}$	-0.119*** (0.018)	-0.067*** (0.013)	0.186*** (0.018)	-0.348*** (0.045)	-0.192*** (0.038)
Return $_{t-1}$	0.017** (0.008)	-0.002 (0.007)	-0.015* (0.008)	0.124*** (0.020)	0.104*** (0.020)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.354	0.385	0.665	0.421	0.792
Within R ²	0.308	0.359	0.654	0.405	0.783
Session fixed effects	Yes	Yes	Yes	Yes	Yes
Course fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table follows equation (7) replacing individual fixed effects with lagged outcomes; all variables are expressed in per player equivalent terms; endowment and windfall are centered; ‘treated round’ takes a value of one in rounds 5-8 of sessions exposed to the information treatment; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A5: Regression estimates of allocations and outcomes with block effects, equal-endowment rounds

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Block seq.	-0.214 (0.363)	-0.348 (0.627)	0.561 (0.465)	0.676 (0.601)	1.00 (0.752)
Windfall $\times$ Block seq.	-0.034* (0.019)	0.014 (0.015)	0.019 (0.020)	0.058* (0.029)	0.095* (0.050)
Info. treatment	-0.431* (0.236)	0.180 (0.125)	0.251 (0.228)	0.613* (0.338)	1.09* (0.606)
Observations	2,109	2,109	2,109	2,109	2,109
R ²	0.543	0.528	0.519	0.588	0.628
Within R ²	0.006	0.002	0.002	0.002	0.009
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes
Block fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: table follows equation (7), including block fixed effects, defined by the four within-session treatment cells; all variables are expressed in per player equivalent terms; endowment and windfall are centered; ‘block seq.’ equals one for the second visit to a given block; info. treatment’ equals one in rounds 5-8 of sessions exposed to the information treatment; standard-errors clustered by session in parentheses; observations from unequal endowment sessions and practice rounds omitted.

Source: own elaboration.

Table A6: Regression estimates of allocations and outcomes with block effects

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Block seq.	0.340* (0.185)	0.203 (0.180)	-0.543** (0.252)	0.118 (0.798)	-0.331 (0.941)
Windfall $\times$ Block seq.	-0.021* (0.012)	-0.0006 (0.011)	0.022 (0.013)	0.042** (0.019)	0.068** (0.031)
Endowment	0.224*** (0.012)	0.221*** (0.010)	0.555*** (0.014)	0.474*** (0.021)	1.36*** (0.019)
Info. treatment	-0.464** (0.207)	-0.066 (0.132)	0.530** (0.213)	0.769** (0.301)	1.34** (0.539)
Block seq. $\times$ Endowment	-0.039* (0.021)	-0.015 (0.015)	0.054*** (0.020)	-0.004 (0.035)	0.046 (0.040)
Block seq. $\times$ High endowment	0.340 (0.245)	0.082 (0.236)	-0.422 (0.322)	-0.583 (0.444)	-1.01 (0.723)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.524	0.555	0.747	0.542	0.815
Within R ²	0.274	0.370	0.696	0.193	0.764
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes
Block fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: these estimates replicate Table A5, including all observations.

Source: own elaboration.

Table A7: Alternative estimates of allocations and outcomes

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Low endowment	-1.80*** (0.094)	-1.62*** (0.055)	-4.58*** (0.094)	-3.61*** (0.150)	-10.7*** (0.183)
High endowment	1.65*** (0.113)	1.83*** (0.092)	4.52*** (0.133)	3.66*** (0.127)	10.9*** (0.202)
Windfall	0.016 (0.015)	-0.0004 (0.013)	-0.016 (0.017)	0.734*** (0.026)	0.714*** (0.041)
Info. treatment	-0.474** (0.206)	-0.069 (0.129)	0.543** (0.212)	0.759** (0.300)	1.34** (0.538)
Windfall $\times$ Round	-0.003 (0.003)	-0.001 (0.003)	0.005 (0.003)	0.007 (0.005)	0.011 (0.008)
Observations	4,219	4,219	4,219	4,219	4,219
R ²	0.524	0.555	0.747	0.541	0.815
Within R ²	0.273	0.371	0.696	0.397	0.795
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: this table replicates Table 3, replacing the endowment with low/high value dummies; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A8: Estimates of allocations and outcomes at lowest windfall value

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.226*** (0.029)	0.215*** (0.027)	0.558*** (0.033)	0.245*** (0.026)	1.13*** (0.030)
Info. treatment	-0.530** (0.250)	0.037 (0.173)	0.493* (0.280)	0.588** (0.283)	1.22** (0.573)
Endowment $\times$ Round	-0.003 (0.006)	0.001 (0.005)	0.002 (0.006)	-0.0009 (0.006)	0.003 (0.006)
Observations	2,070	2,070	2,070	2,070	2,070
R ²	0.583	0.595	0.774	0.542	0.923
Within R ²	0.295	0.388	0.716	0.237	0.915
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: this table replicates Table 3, restricting the sample to rounds with the lowest windfall values ($W = 10$); standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A9: Estimates of allocations and outcomes among engaged players

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.258*** (0.044)	0.152*** (0.024)	0.589*** (0.049)	0.276*** (0.070)	1.14*** (0.056)
Windfall	0.004 (0.027)	0.033* (0.019)	-0.036 (0.028)	0.772*** (0.068)	0.761*** (0.072)
Windfall $\times$ Endowment	0.002 (0.002)	-0.002 (0.002)	0.0003 (0.002)	0.047*** (0.004)	0.045*** (0.004)
Windfall $\times$ Round	-0.002 (0.005)	-0.010* (0.005)	0.012* (0.006)	0.012 (0.014)	0.016 (0.013)
Info. treatment	-0.927*** (0.340)	0.108 (0.201)	0.818** (0.388)	0.274 (0.788)	1.36 (0.880)
Endowment $\times$ Round	-0.0009 (0.006)	0.0002 (0.006)	0.0007 (0.008)	-0.002 (0.015)	-0.001 (0.011)
Observations	1,303	1,303	1,303	1,303	1,303
R ²	0.564	0.463	0.743	0.584	0.820
Within R ²	0.317	0.244	0.681	0.444	0.798
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: this table replicates Table 3, now restricting the sample to participants who saved no more than 20% of their endowment in each of the two practice rounds; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

Table A10: Estimates of allocations and outcomes among players of quantitative/business courses

	Influence (1)	Saving (2)	Production (3)	Final fund (4)	Return (5)
Endowment	0.220*** (0.031)	0.235*** (0.026)	0.545*** (0.035)	0.226*** (0.055)	1.12*** (0.042)
Windfall	0.019 (0.030)	-0.018 (0.019)	-0.001 (0.028)	0.725*** (0.050)	0.706*** (0.073)
Windfall $\times$ Endowment	0.002 (0.001)	-0.0006 (0.002)	-0.0009 (0.002)	0.046*** (0.003)	0.044*** (0.003)
Windfall $\times$ Round	-0.007 (0.005)	0.003 (0.004)	0.004 (0.005)	0.011 (0.009)	0.019 (0.012)
Info. treatment	-0.329 (0.288)	0.030 (0.168)	0.299 (0.267)	0.316 (0.390)	0.705 (0.595)
Endowment $\times$ Round	-0.0009 (0.006)	-0.007* (0.004)	0.008 (0.006)	0.005 (0.011)	0.007 (0.009)
Observations	1,861	1,861	1,861	1,861	1,861
R ²	0.533	0.540	0.745	0.566	0.829
Within R ²	0.281	0.354	0.696	0.420	0.810
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes

significance: *** 0.01, ** 0.05, * 0.1.

Notes: this table replicates Table 3, now restricting the sample to participants who saved no more than 20% of their endowment in each of the two practice rounds; standard-errors clustered by session in parentheses; observations from practice rounds omitted.

Source: own elaboration.

B Derivation of the equilibrium and predictions

This appendix derives the results stated in Section 3, namely: the dominance of production over saving (P1; see B.1), the first-order condition and symmetric equilibrium underlying all other predictions (B.2), the endowment-independence property (P2; see B.3), the windfall comparative static (P3; see B.4), the unequal-endowment equilibrium (B.5), and equilibrium existence and uniqueness (B.6).

B.1 Zero saving

Throughout, we take that saving is strictly dominated (P1). To see this, hold $i_j < e_j$ fixed, and move one token from saving to production. By equation (5), this moves π_j by $m(1 - \lambda) + \partial(F\sigma_j)/\partial p_j - 1$. At game parameters $m(1 - \lambda) = 1.2$, while production also raises F_0 hence $F > 0$, meaning the net change in payoff is strictly positive; this contrasts to a saved token that returns its face value only. Production therefore weakly dominates saving, such that at any optimum $s_j = 0$, and $p_j = e_j - i_j$.

B.2 First-order condition

With $s_j = 0$ and $p_j = e_j - i_j$, player j takes rivals' influence $I_{-j} = \sum_{k \neq j} i_k$ as given, so $I = I_{-j} + i_j$ and $P = E - I$, giving $\partial I/\partial i_j = 1$ and $\partial P/\partial i_j = -1$. Substituting into (5) yields:

$$\pi_j = m(1 - \lambda)(e_j - i_j) + (m\lambda(E - I) + W) \cdot \frac{E - I}{E} \cdot \frac{1 + i_j}{I + N} \quad (\text{B1})$$

Two identities. For the share $\sigma_j = (1 + i_j)/(I + N)$, with $\partial I/\partial i_j = 1$,

$$\frac{\partial \sigma_j}{\partial i_j} = \frac{(I + N) - (1 + i_j)}{(I + N)^2} = \frac{1}{I + N} \left(1 - \frac{1 + i_j}{I + N} \right) = \frac{1 - \sigma_j}{I + N}. \quad (\text{B2})$$

For the fund $F = F_0 g$ with $F_0 = m\lambda P + W$ and $g = (E - I)/E$, using $\partial P/\partial i_j = -1$, $\partial I/\partial i_j = 1$,

$$\frac{\partial F}{\partial i_j} = (-m\lambda)g + F_0 \left(-\frac{1}{E} \right) = - \left(m\lambda g + \frac{F_0}{E} \right)$$

Since $gE = E - I = P$ at an interior allocation, $m\lambda gE + F_0 = m\lambda P + m\lambda P + W = 2m\lambda P + W$, so

$$\frac{\partial F}{\partial i_j} = -\frac{1}{E} (2m\lambda P + W). \quad (\text{B3})$$

Unconstrained best response. Differentiating (B1) and applying (B2)–(B3), gives:

$$\begin{aligned} \frac{\partial \pi_j}{\partial i_j} &= -m(1 - \lambda) + \frac{\partial F}{\partial i_j} \sigma_j + F \frac{\partial \sigma_j}{\partial i_j} \\ &= -m(1 - \lambda) - \frac{\sigma_j}{E} (2m\lambda P + W) + \frac{F_0 g}{I + N} (1 - \sigma_j) \end{aligned}$$

Setting this to zero gives the best-response condition:

$$\underbrace{\frac{F_0 g}{I + N}(1 - \sigma_j)}_{\text{marginal share gain}} = \underbrace{m(1 - \lambda)}_{\text{production opportunity cost}} + \underbrace{\frac{\sigma_j}{E}(2m\lambda P + W)}_{\text{own share of fund destruction}}. \quad (\text{B4})$$

Strict concavity of π_j in i_j , which makes (B4) both necessary and sufficient for the interior optimum, is established in Appendix B.6.

Symmetric equilibrium condition. Under equal endowments $e_j = E/N$ the game is symmetric and its interior equilibrium is unique (Proposition B.1), hence symmetric. Imposing $i_k = i^*$ for all k gives $I = Ni^*$, $I + N = N(1 + i^*)$, $\sigma_j = 1/N$, $1 - \sigma_j = (N - 1)/N$, and $P = E - Ni^*$. Substituting into (B4) and multiplying by N ,

$$\frac{(N - 1) F_0 g}{N(1 + i^*)} = m(1 - \lambda)N + \frac{2m\lambda P + W}{E}, \quad (\text{B5})$$

with $F_0 = m\lambda(E - Ni^*) + W$ and $g = (E - Ni^*)/E$. Clearing the $(1 + i^*)$ denominator yields a quadratic in i^* with a unique root in $(0, E/N)$. For $N = 10$, $\lambda = 0.4$, $E = 100$ this gives $i^* = 2.53$ at $W = 10$ and $i^* = 4.33$ at $W = 100$.

B.3 Endowment response (P2)

The individual's endowment level is not an argument of the unconstrained influence first-order condition. Inspecting equation (B4), every quantity on both sides (F_0 , g , σ_j , P , $I + N$) is a function either of *aggregate* influence and production or of the player's own influence i_j , but not of e_j directly. Hence, the interior optimum i_j solving (B4) is invariant to e_j holding these aggregates fixed. Thus, two players in the same game who face the same (F_0, g, I, P) and differ only in endowment choose the same influence. (Note the endowment does determine the residual allocated to production, $p_j = e_j - i_j$; so, the claim is specifically that the influence margin is endowment-independent.)

To see this in another way, consider redistributing the fixed total E across players, changing the profile $\{e_j\}$ but not E . By P2 no player's interior influence responds to their own e_j at given aggregates; and because the candidate symmetric aggregates ($I = Ni^*$, $P = E - Ni^*$, F_0 , g) depend on the endowment profile only through E , which is held fixed, redistribution leaves the equilibrium aggregates—and thus equilibrium influence—unchanged.

The sole exception operates through the budget constraint: a low-endowment player whose unconstrained optimum exceeds e_j is pushed to the corner $i_j = e_j$ (Appendix B.5), which lowers aggregate influence slightly. At the experimental parameters $i^* > e_L$ in both windfall conditions when endowments are unequal, which places these rounds in Regime 2 of P2. In these rounds a positive endowment gradient is predicted, but solely as an artefact of budget constraints that bind the poorer players. The steepness of this gradient depends on the magnitude of the gap: $i^* - e_L$. The further the poor are held below the optimum, the more aggregate influence falls, the more the unconstrained capture, and the steeper the gradient. And because i^* increases in the windfall, the constraint tightens and the gradient steepens with the prize.

The rich do not, however, fully make up the poor's shortfall. Best responses in this contest are

contractions: a unit of withdrawn rival influence is met with less than a unit of compensating increase, because each additional token of own influence raises a player's share by less and erodes the fund they share in. The rich therefore equilibrate only modestly above i^* , replacing a fraction of the shortfall rather than all of it, and aggregate influence is strictly lower than under no constraint:

$$N_H (i_H - i^*) < N_L (i^* - e_L). \quad (\text{B6})$$

B.4 Sign of the windfall response (P3)

To determine the best response to the magnitude of the windfall, write (B5) as $\Phi(i^*, W) = 0$ with

$$\Phi(i, W) = \frac{(N-1)F_0(i)g(i)}{N(1+i)} - m(1-\lambda)N - \frac{2m\lambda P(i) + W}{E},$$

$$F_0(i) = m\lambda(E - Ni) + W, g(i) = (E - Ni)/E, P(i) = E - Ni.$$

By the implicit function theorem $di^*/dW = -\Phi_W/\Phi_i$. Proposition B.1 establishes $\Phi_i < 0$, implying $\text{sign}(di^*/dW) = \text{sign}(\Phi_W)$.

Differentiating in W at fixed i (only F_0 and the explicit W depend on W , since g and P are allocations),

$$\Phi_W = \frac{(N-1)g}{N(1+i)} - \frac{1}{E} = \frac{1}{E} \left[\frac{(N-1)(E - Ni)}{N(1+i)} - 1 \right].$$

Thus, $di^*/dW > 0$ whenever

$$(N-1)(E - Ni^*) > N(1+i^*), \quad (\text{B7})$$

i.e. whenever the equilibrium retains a positive production base. The condition fails only as $i^* \rightarrow E/N$ (full dissipation, $P \rightarrow 0$), which does not arise in the relevant range: at $N = 10$, $\lambda = 0.4$, $E = 100$ the left side of (B7) is 672 versus 35 at $W = 10$ and 510 versus 53 at $W = 100$. Hence i^* increases in the windfall, consistent with the rise from 2.53 to 4.33 (P3).

B.5 Unequal endowments

Let N_L players hold e_L and N_H hold e_H , with $N_L + N_H = N$ and $N_L e_L + N_H e_H = E$; the equilibrium is asymmetric and $\sigma_j \neq 1/N$. A low-endowment player is corner-constrained when their marginal payoff (B4) remains positive throughout $i_L \in [0, e_L]$; then $i_L = e_L$ and $p_L = 0$. High-endowment players are symmetric among themselves and solve (B4) taking the cornered poor and one another as given, with $I = N_H i_H + N_L e_L$, $P = E - I$, $\sigma_H = (1 + i_H)/(I + N)$ —one equation in i_H . For $N = 10$, $N_L = N_H = 5$, $e_L = 2$, $e_H = 18$, $\lambda = 0.4$: the poor are indeed cornered (their marginal payoff at $i_L = e_L$ is 0.08 at $W = 10$ and 0.30 at $W = 100$, both positive), and $i_H = 2.95$ at $W = 10$, $i_H = 6.16$ at $W = 100$. The $1/N$ simplification does not apply because players are heterogeneous.

B.6 Existence and uniqueness

Proposition B.1. *Under equal endowments $e_j = E/N$, with $\lambda \in (0, 1)$ and $W \geq 0$, the game has a unique interior symmetric pure-strategy Nash equilibrium $i^* \in (0, E/N)$, provided $\Phi(0, W) > 0$ (which holds for the parameters used here).*

Proof. *Step 1 (own-payoff concavity).* Differentiating $\partial\pi_j/\partial i_j$ from Appendix B.2 once more in i_j ,

$$\frac{\partial^2 \pi_j}{\partial i_j^2} = -\frac{m}{E}(2m\lambda P + W) \frac{1 - \sigma_j}{I + N} - \frac{2m\lambda}{E} \sigma_j - \frac{m F_0 g (1 - \sigma_j)}{(I + N)^2}.$$

On $i_j \in (0, e_j)$ each term is negative: $2m\lambda P + W > 0$ and $1 - \sigma_j \in (0, 1)$ for the first; $\sigma_j, \lambda > 0$ for the second; $F_0, g, (1 - \sigma_j) > 0$ for the third. Hence π_j is strictly concave in i_j , the best response is unique, and (B4) is necessary and sufficient for the interior optimum.

Step 2 (existence). The strategy space $\prod_j [0, e_j]$ is non-empty, compact, and convex; π_j is continuous in all actions and strictly concave in i_j (Step 1). By the Debreu–Glicksberg–Fan theorem a pure-strategy Nash equilibrium exists. At $i_j = 0$ the share gain $F_0 g (1 - \sigma_j)/(I + N)$ is strictly positive and the marginal cost finite, so $\partial\pi_j/\partial i_j > 0$; no player chooses $i_j = 0$ and the equilibrium is interior.

Step 3 (symmetry). The aggregates (I, P, F_0, g) depend on players only through symmetric sums. Two players in equilibrium each satisfy (B4) with the same aggregates; holding these fixed, the left side of (B4) is strictly decreasing in i_j (through σ_j) and the right side strictly increasing, so (B4) has at most one solution. Hence all players choose the same influence and the equilibrium is symmetric.

Step 4 (uniqueness). At a symmetric profile, roots of Φ (defined in Appendix B.4) are the symmetric equilibria. The first term of Φ is strictly decreasing in i : $F_0(i)g(i)$ is a product of two positive, strictly decreasing functions, divided by the increasing $1 + i$. The subtracted term $-(2m\lambda P(i) + W)/E$ is strictly increasing, as P decreases in i . Thus Φ is strictly decreasing on $(0, E/N)$. With $\Phi(0, W) > 0$ and, as $i \uparrow E/N$, $F_0 g \rightarrow 0$ giving $\Phi(E/N, W) = -m(1 - \lambda)N - W/E < 0$, a strictly decreasing continuous Φ has exactly one root. Therefore i^* is unique. $\square$

Numerical check. For $\lambda = 0.4$, $N = 10$, $E = 100$: $\Phi(0^+) = 67.3$, $\Phi(E/N^-) = -12.1$ at $W = 10$, and $\Phi(0^+) = 147.4$, $\Phi(E/N^-) = -13.0$ at $W = 100$, each with a single interior root ($i^* = 2.53$ and 4.33), confirming Proposition B.1.

C Game play material

C.1 Instructions to participants

INSTRUÇÕES

O jogo

Neste jogo, você desempenha o papel de proprietário de uma pequena empresa. Em cada ronda do jogo, deve decidir como alocar os recursos do seu negócio. Estes recursos são representados por fichas. No início de cada ronda, cada participante recebe uma dotação individual de fichas e deve distribuí-las por três actividades: **produção, poupança e influência**.

Ao mesmo tempo, existe um **fundo comunitário**. No início de cada ronda, o governo deposita um capital externo neste fundo — este dinheiro não vem de nenhum jogador, vem de fora. Dentro de cada ronda o fundo cresce quando os participantes investem na produção. No fim de cada ronda o valor acumulado no fundo é dividido entre vocês.

Assim, no final da ronda, cada jogador recebe de volta fichas de três fontes: o retorno directo da sua produção, a sua poupança, e uma quota do fundo distribuída em função dos gastos na influência.

O gráfico abaixo mostra como funciona o jogo para cada jogador.

Cada jogador deve gastar a sua dotação individual de fichas em três actividades:

1. Produção (p)

Cria valor: por cada 5 fichas investidas em produção, recebe 6 de volta. Além disso, por cada 5 fichas investidas, mais 4 são acrescentadas ao fundo comunitário. Assim, a produção aumenta os recursos individuais e do grupo.

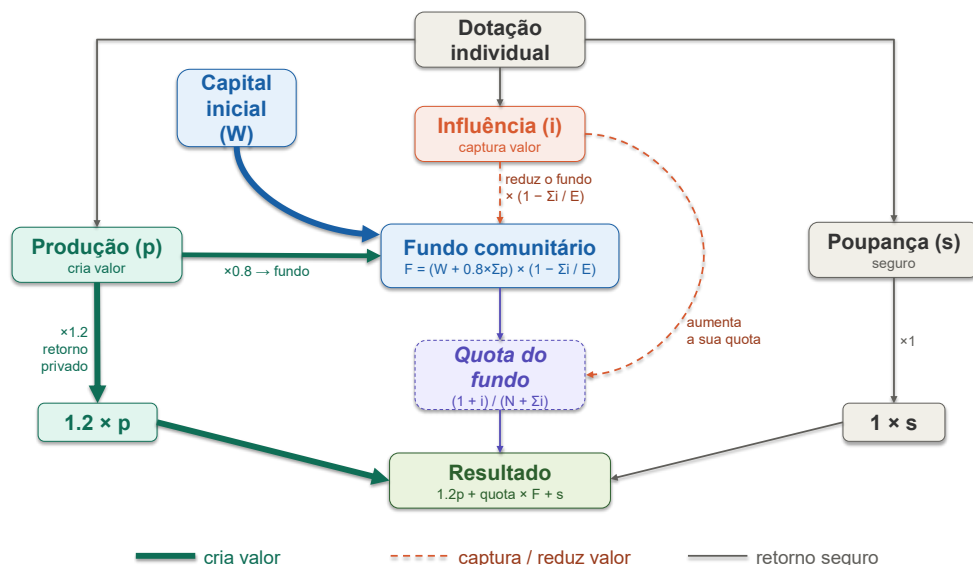
2. Poupança (s)

Mantém o seu valor: cada ficha poupada é devolvida na íntegra, sem lucro e sem contribuição para o fundo.

3. Influência (i)

Captura valor: gastar fichas em influência aumenta a sua parte do fundo, mas reduz o tamanho total do fundo comunitário.

- Se ninguém gastar em influência, o fundo é dividido igualmente entre todos.
- Se gastar mais em influência do que os outros, recebe uma parte maior do fundo.
- Mas cada ficha gasta em influência pelo grupo reduz o fundo em 1%. Se metade de todas as fichas do grupo for para influência, o fundo perde metade do seu valor.



Exemplos

Os dois exemplos seguintes usam 3 jogadores, cada um com uma dotação de 10 fichas, e o capital inicial do fundo comunitário é de 12 fichas. Apenas números inteiros são mostrados (valores arredondados).

Exemplo 1: Ninguém usa influência

Alocações:

Jogador	Dotação	Produção	Poupança	Influência
A	10	5	5	0
B	10	5	5	0
C	10	5	5	0
Total	30	15	15	0

Neste exemplo todos os jogadores alocam 5 fichas a produção e 5 a poupança.

O que acontece ao fundo comunitário?

- O fundo começou com 12 fichas iniciais. Para cada 5 fichas investidas na produção, o fundo recebe 4 fichas mais. Assim, neste exemplo o fundo recebe mais 12 da produção (3×4 fichas), e cresce para 24 fichas.
- Ninguém usou influência, então o fundo não é diminuído.

Resultados:

Jogador	Do fundo	Da produção	Da poupança	Total
A	8	6	5	19
B	8	6	5	19
C	8	6	5	19
Total	24	18	15	57

Para cada jogador os resultados vêm de três fontes:

- O fundo comunitário é dividido por igual: $24 \div 3 = 8$ fichas por pessoa.
- A produção rendeu 6 fichas por cada 5 investidas, um retorno de 120%.
- As fichas na poupança são devolvidas na íntegra (5 fichas cada).

Cada jogador recebe de volta: 8 do fundo, 6 da produção e 5 da poupança, 19 fichas em total.

Exemplo 2: C gasta fichas em influência

No segundo exemplo os jogadores A e B continuam a colocar 5 na produção e 5 na poupança. Mas agora, jogador C agora gasta 5 em influência e zero em produção.

Alocações:

Jogador	Dotação	Produção	Poupança	Influência
A	10	5	5	0
B	10	5	5	0
C	10	0	5	5
Total	30	10	15	5

O que acontece ao fundo comunitário?

- O fundo começou com 12 fichas iniciais e ganha mais 8 da produção porque só dois jogadores investiram 5 fichas na produção (2×4 fichas = 8).
- O grupo gastou 5 fichas em influência de um total de 30. Isto diminui o fundo em $5/30 \times 20 \approx 3$ fichas.
- Assim o valor do fundo final é: $12 + 8 - 3 = 17$ fichas (contra as 24 fichas no Exemplo 1).

Resultados:

Jogador	Do fundo	Da produção	Da poupança	Total
A	2	6	5	13
B	2	6	5	13
C	13	0	5	18
Total	17	12	15	44

Como antes, a distribuição do fundo entre os jogadores segue a regra fixa. Cada jogador começa com 1 voto e ganha mais 1 voto por cada ficha de influência. A sua proporção dos votos determina a quota que recebe do fundo. Neste caso:

- O total de votos sobre o fundo é: $3 + 5 = 8$.
- A e B: têm 1 voto cada $\rightarrow 1/8$ do fundo $\rightarrow 2$ fichas cada.
- C: 6 votos $\rightarrow 6/8$ do fundo $\rightarrow 13$ fichas.

Adicionando a sua quota do fundo com as fichas ganhas na produção e da poupança,

- Jogador C ganha 18 ($= 13 + 0 + 5$).
- Jogadores A e B recebem 13 ($= 2 + 6 + 5$).

Note: todos ganham menos do que no Exemplo 1.

Regras do jogo

- Jogaremos 8 rondas. Cada ronda é independente.
- No início de cada ronda, a sua dotação e o capital inicial do fundo podem variar.
- Em cada ronda deve distribuir todas as suas fichas. Por exemplo: se receber 10 fichas, todas as 10 devem ser alocadas entre: **produção**, **poupança** ou **influência**.
- Pode gastar todas as fichas numa actividade, ou partilhá-las entre as três como quiser.
- Todas as alocações devem ser números inteiros.
- No final de cada ronda, vamos anunciar apenas os resultados do grupo como um todo.
- As suas decisões são privadas.
- Os resultados individuais nunca são comunicados ao grupo.
- Não comunique com outros participantes durante o jogo.

Pagamento

No final das 8 rondas, uma ronda será escolhida ao acaso.

Os seus ganhos nessa ronda determinam o seu pagamento:

- **10 MZN por cada ficha ganha nessa ronda**
- **Mais 100 MZN de taxa de participação**

Consegue responder?

1. Se investir 5 fichas em produção, quantas fichas recebe de volta como retorno directo privado?
2. Qual actividade dá mais fichas de volta directamente — produção ou poupança?
3. Se ninguém no grupo gastar fichas em influência, como é dividido o fundo comunitário?
4. O que acontece ao fundo comunitário quando o grupo gasta mais fichas em influência?

Vamos jogar duas rondas de prática para garantir que todos entendem como o jogo funciona.

C.2 Pre-game questionnaire

QUESTIONÁRIO PRÉ-JOGO

Data:	Código da sessão:	Letra do/a participante:

INFORMAÇÃO PESSOAL

1. Qual é o seu género?

- ☐ Masculino
- ☐ Feminino
- ☐ Prefiro não responder

2. Quantos anos tem?

Idade: _____

3a. Qual é o nome do curso que frequenta actualmente?

Curso: _____

3b. Em que ano começou a estudar nesta universidade?

Ano: _____

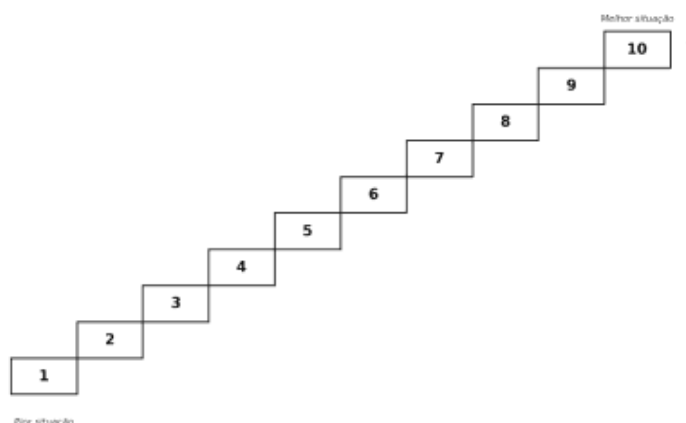
4. Em que província frequentou a escola primária?

- ☐ Niassa
- ☐ Cabo Delgado
- ☐ Nampula
- ☐ Zambézia
- ☐ Tete
- ☐ Manica
- ☐ Sofala
- ☐ Inhambane
- ☐ Gaza
- ☐ Maputo Província
- ☐ Maputo Cidade
- ☐ Fora de Moçambique / Outro

Letra do/a participante:

5. Imagine uma escada com dez degraus. No fundo (degrau 1) estão os estudantes em pior situação nesta universidade — têm menos apoio financeiro, mais dificuldades económicas, e a sua família tem menos riqueza e poder. No topo (degrau 10) estão os estudantes em melhor situação — têm mais apoio financeiro, sem dificuldades económicas, e a sua família tem mais riqueza e poder.

Onde se colocaria nesta escada hoje?



Rodeia a tua resposta: 1 2 3 4 5 6 7 8 9 10

6. Já alguma vez participou numa experiência de tomada de decisão ou de economia experimental?

- ☐ Sim ☐ Não

ATITUDES E PREFERÊNCIAS

7. Se um negócio no seu bairro se tornar muito bem-sucedida, acha que isso é muito bom ou muito mau para negócios semelhantes nas proximidades?

- ☐ Muito bom
☐ Um pouco bom
☐ Nem bom nem mau
☐ Um pouco mau
☐ Muito mau

8. Se os recursos da comunidade estiverem a ser partilhados, é mais importante para si receber uma quota grande, ou que o montante total partilhado seja o maior possível?

- ☐ A minha quota pessoal é mais importante
☐ Ambos são igualmente importantes
☐ O montante total é mais importante
☐ Nenhum importa muito para mim

9. Em geral, acha que a maioria das pessoas na sua comunidade estudantil é de confiança?

- ☐ Quase sempre
☐ Geralmente
☐ Às vezes
☐ Raramente
☐ Quase nunca

Letra do/a participante:

As perguntas 10 e 11 referem-se à seguinte situação:

A sua comunidade está a decidir como manter uma bomba de água partilhada. Todos beneficiam se for mantida, mas a manutenção exige que cada pessoa contribua com tempo ou dinheiro.

10. Se não tens certeza que todos os outros estão dispostos a contribuir, iria contribuir mesmo assim?

- ☐ Definitivamente sim
- ☐ Provavelmente sim
- ☐ Não tenho a certeza
- ☐ Provavelmente não
- ☐ Definitivamente não

11. Se tens certeza que todos os outros no grupo estão dispostos a contribuir, também iria contribuir?

- ☐ Definitivamente sim
- ☐ Provavelmente sim
- ☐ Não tenho a certeza
- ☐ Provavelmente não
- ☐ Definitivamente não

12. Preferia receber 100 MZN hoje ou 150 MZN daqui a um mês?

- ☐ 100 MZN hoje
- ☐ 150 MZN daqui a um mês

13. Imagine que pode investir 50 MZN num projecto que tem 50% de probabilidade de devolver 120 MZN e 50% de probabilidade de não devolver nada. Investiria?

- ☐ Sim
- ☐ Não
- ☐ Não tenho a certeza

[RESPONDEU A TODAS AS PERGUNTAS?]

[FIM]

C.3 Post-game questionnaire

INQUÉRITO PÓS-JOGO

Data:	Código da sessão:	Letra do/a participante:

COMPREENSÃO DO JOGO

Por favor responda às seguintes perguntas sobre o jogo que acabou de jogar.

1. Quando o grupo no seu conjunto gastou mais fichas em influência, o que aconteceu ao fundo comunitário?
 - ☐ O fundo diminuiu
 - ☐ O fundo ficou igual
 - ☐ O fundo aumentou
 - ☐ Não tenho a certeza
2. Quando um jogador gasta mais fichas em influência do que todos os outros jogadores, o que aconteceu à sua quota do fundo?
 - ☐ A sua quota aumentou
 - ☐ A sua quota ficou igual
 - ☐ A sua quota diminuiu
 - ☐ Não tenho a certeza
3. Qual actividade adiciona fichas directamente ao fundo comunitário?
 - ☐ Produção
 - ☐ Influência
 - ☐ Poupança
 - ☐ Não tenho a certeza
4. Se todos os jogadores gastassem todas as suas fichas em influência, o que aconteceria ao fundo comunitário?
 - ☐ Cairia para zero
 - ☐ Ficaria igual
 - ☐ Aumentaria
 - ☐ Não tenho a certeza

PERCEPÇÕES SOBRE INFLUÊNCIA

5. Na sua experiência, com que frequência as pessoas ou empresas usam contactos pessoais ou influência informal para aceder a recursos públicos?
 - ☐ Muito frequente
 - ☐ Bastante frequente
 - ☐ Pouco frequente
 - ☐ Raro
 - ☐ Nunca
6. Acha que usar contactos pessoais para aceder a recursos públicos é aceitável?
 - ☐ Sempre aceitável
 - ☐ Geralmente aceitável
 - ☐ Depende da situação
 - ☐ Geralmente inaceitável
 - ☐ Nunca aceitável

C.4 Information intervention and placebo texts

TEXTO DE INTERVENÇÃO:

Grupo de Tratamento — Pausa a Meio da Sessão

[Apenas para uso do experimentador — não distribuir aos participantes]

Já completaram as primeiras quatro rondas.

Antes de continuarmos, queria ter um momento para rever os dois exemplos nas vossas instruções.

Como podem ver, no **Exemplo 1**, nenhum jogador gastou fichas em influência. O fundo recebeu 12 fichas de capital externo e 12 fichas da produção do grupo — um total de 24 fichas. Cada pessoa recebeu 8 fichas do fundo, e em conjunto o grupo levou para casa 57 fichas no total.

No **Exemplo 2**, pessoa C gastou 5 fichas em influência em vez de investir em produção. Isto reduziu o fundo em duas maneiras: primeiro, porque C produziu menos, o fundo recebeu apenas 8 fichas da produção em vez de 12; segundo, as 5 fichas gastas em influência por C reduziram directamente o valor do fundo, de 20 para 17.

No resultado desta ronda, A e B receberam apenas 2 fichas cada do fundo — contra 8 no Exemplo 1 — porque o fundo era menor e eles têm uma quota menor.

E C? Apesar de ter gasto em influência e de ter recebido uma quota muito maior do fundo, C levou para casa apenas 18 fichas — uma ficha a menos do que todos ganharam no Exemplo 1.

Assim, nessa ronda a influência beneficiou C em relação a A e B, mas não em relação a um mundo em que ninguém usasse influência.

Com 5 fichas gastas em influência e não produção, nesta ronda o grupo em conjunto levou para casa só 44 fichas — 13 a menos do que no Exemplo 1.

A comparação entre Exemplo 2 e Exemplo 1 mostra como as fichas gastas em influência reduzem o valor ganho na totalidade.

Pensem nisto: Como podem vocês e o grupo em conjunto obter o maior retorno total?
--

[Pausa para reflexão — aproximadamente 30 segundos. O experimentador não responde em voz alta.]

Nota para o experimentador

Após a pausa, retome a sessão sem comentários adicionais.

*Não confirme nem corrija as respostas dos participantes. A questão acima é deliberadamente deixada **em aberto** — o objectivo é activar a reflexão dos participantes sobre os incentivos colectivos, não prescrever um comportamento específico.*

TEXTO PLACEBO:

Grupo de Controlo — Pausa a Meio da Sessão

[Apenas para uso do experimentador — não distribuir aos participantes]

Já completaram as primeiras quatro rondas.

Antes de continuarmos, queria ter um momento para esclarecer quaisquer dúvidas que possam ter sobre o jogo.

Há algumas questões?

[Pausa]

Só para repetir a ideia central – em cada ronda o jogador deve gastar a sua dotação individual de fichas entre três actividades:

1. Produção: Cria valor – por cada 5 fichas investidas em produção, recebe 6 de volta e mais 4 são acrescentadas ao fundo comunitário.
2. Poupança: Mantém o seu valor – cada ficha poupada é devolvida na íntegra
3. Influência: Captura valor – gastar fichas em influência aumenta a sua parte do fundo, mas reduz o tamanho total do fundo comunitário.

Podemos retornar?