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When Collective Ignorance is Bliss: Theory and Experiment on Voting for Learning^{*}

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Abstract

When do groups and societies choose to be uninformed? We study a committee that needs to vote on a reform which will give every member a private statedependent payoff. The committee can vote to learn the state at no cost. We show that the committee votes not to learn the state whenever independent voters are more divided than partisans. This implies that groups with conflicting preferences tend to seek less information. A laboratory experiment shows that committees are substantially more likely to vote against acquiring information when the theory predicts them to do so. We also observe deviations from theory that are largely explained by cognitive limitations. At the same time, subjects with more experience or with greater strategic competence are more likely to vote in line with the theory, providing evidence for external validity of the model.

JEL Classification Numbers: D72, D83, C92

Keywords: voting, collective learning, reform adoption, preference heterogeneity, laboratory experiment.

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1 Introduction

Distributional consequences of reforms and other collective decisions are often uncertain when the decision is being made. For example, trade liberalisation can benefit some industries while hurting others, but it is not always evident in advance which industries will gain and which will lose. A reform of higher education can induce prospective students to reallocate between degree programs, but the direction of change, and hence the identities of winners and losers, may be uncertain. Allocation of research funding, adoption of environmental regulations, investment in infrastructure projects, and academic hiring are other examples of decisions with uncertain consequences.

In many of these scenarios, however, the decision-making body can vote to learn this information. For instance, they can vote to delay the decision on a reform; and during this delay, they can commission a study, implement a pilot project, or observe the effect of similar reforms in other countries. When will the group choose to acquire information, and when will it prefer not to have it?

This paper addresses the above question by modelling, and experimentally testing, the problem of a committee that needs to vote on a reform. If adopted, the reform will give each committee member a private payoff which depends on a state of the world. The state can take values X and Y. Individual payoffs in each state are commonly known, but the state is unknown. Prior to voting on the reform, the committee can vote to acquire public information about the state, at no $cost^1$. Decisions are made by simple majority voting.

Will the committee ever vote against learning? If committee members have identical preferences, they will weakly prefer to learn the state before making the decision. But when preferences differ, this need not be the case, as the following example shows. Suppose the committee consists of three members, called Anna, Bob, and Claire. The two states are equally likely. If the reform is rejected, each member receives a payoff of zero. If the reform is approved, the payoffs are as follows:

If the state is not known, Anna and Bob will support the reform, and each of them will receive an expected payoff of one. If the state is revealed, then in either state the majority

¹We are focusing on situations in which information cannot be acquired privately, but only through a collective decision – for example, because it requires delaying the vote on the reform.

	Payoff in state X	Payoff in state Y
Anna	3	-1
Bob	-1	3
Claire	-3	-3

will oppose the reform, so each member will receive a payoff of zero. Thus, Anna and Bob each receive a higher expected payoff without information than with information. Hence, they vote against learning the state – and since they constitute a majority, their preference becomes the collective decision. We can thus say that the committee has a *collective preference for ignorance*.

As we show in the paper, any committee weakly prefers not to acquire information if and only if the collective decisions on the reform are the same after either state is revealed. Intuitively, this can happen in two cases. First, that decision can also be the same as the decision on the reform without information – in this case, information has no effect on the outcome, and all members weakly prefer not to acquire it. Second, decisions in both states can be different from the decision without information. In this case, learning the state moves the collective decision on the reform away from the decision that was optimal ex ante – thus, the majority strictly prefers not to learn it, as in the example above.

This logic leads to the main theoretical result of the paper: a simple characterisation of the distributions of members' preferences under which the committee has a collective preference for ignorance. Some members may prefer the reform to the status quo in both states. Others, like Claire in the example, prefer the status quo in both states. We can refer to these two groups as *partisans*. On the other hand, there may be members whose preferred alternative depends on the state. Some, like Anna, prefer the reform in state X only. Others, like Bob, prefer the reform in state Y only. We can call these two groups *independent voters*. The sizes of the different groups of partisans and independents determine the decisions on the reform in the two states. Informally, suppose that the two sets of partisans are of similar size. If one group of independents is much larger than the other, the former group will ensure that the decisions in the two states are different. If, however, the two groups of independents are similar in size, this will not happen.

This intuition underlies the key theoretical result of the paper, summarised in Proposition 1, which states that the committee will have a collective preference for ignorance if and only if the two groups of independent voters are closer in size than the two groups of partisans. This characterisation holds for all distributions of individual payoffs and for any prior belief about the binary state².

The result suggests that decisions on divisive issues are likely to be made with less information. For example, suppose that a national legislature is considering a bill that would strengthen border controls. There is uncertainty, captured by a state of the world, about the effect this may have on immigration. One possibility (state X) is that the bill will reduce immigration by making it harder for immigrants to enter illegally. Another possibility (state Y) is that the number of immigrants will increase, because those who are already in the country may be unwilling to leave, as they may be unable to return³. If a large share of members is against immigration (and thus in favour of the bill if and only if the state is X), then this group will ensure that the collective decision on the bill varies across the two states, and hence also that the legislature votes to learn the state. The same will happen if a large share of members is in favour of immigration. If, however, immigration is a divisive issue – that is, if the number of independents who support the bill in state X only is similar to the number of independents who support it in state Y only – then the votes of these two opposing groups will balance each other out. Then the decision on the bill will be driven by partians, whose preferred decision does not depend on the state, and who are therefore not interested in learning it. Thus, the legislature will vote against acquiring information.

In fact, there is much research on the impact of social heterogeneity on various political outcomes⁴. Our paper suggests that a particular kind of heterogeneity affects the degree to which the society chooses to be informed when making decisions. Groups and societies that are divided (in the sense of not having a general agreement about which outcome is better) are likely to make decisions in haste, to seek less expert advice, to vote on reforms without analysing their potential effects, and to have less support for institutions that make the public more informed, such as independent media or a tradition of public debate.

 $^{^2 \}mathrm{Section}\ 6$ extends the model to imperfect signals, nonbinary state spaces, and supermajority voting rules.

³See Dustmann and Görlach (2016) for an overview of the literature discussing the uncertain effect of border enforcement on immigration.

⁴For example, on quality of governance (Alesina et al., 2003), public good provision (Miguel and Gugerty, 2005; Habyarimana et al., 2007; Beach and Jones, 2017), risk of civil war (Collier, 2001).

We then test our theoretical result in a laboratory setting. Subjects are grouped into three-member committees. They are informed that there are two possible states of the world. Each committee is asked to choose between two options. One option gives each committee member a safe payoff, while the other gives each of them a payoff that depends on the state. State-dependent payoffs are assigned randomly, and are known to all committee members. Before voting on the option, the committee votes on whether to learn the state.

The results demonstrate a comparative static that is in line with theoretical predictions: committees are substantially less likely to acquire information when the opposing groups of independents are more similar in size than the opposing groups of partisans. Specifically, when this condition is satisfied, the fraction of instances in which committees vote to learn the state is approximately 30 percentage points smaller than in the opposite case. The result holds when acquiring information is costless as well as when there is a cost of doing so; it also holds under different priors. It is also robust to controlling for possible learning effects, for labelling of alternatives, and for sociodemographic composition of committees.

At the same time, we also observe that some votes deviate from the theoretical predictions. A possible explanation is that the model assumes voters to be strategically sophisticated and self-regarding. We thus analyse whether departures from these assumptions explain the observed deviations from theory. Our results suggest that strategic naïveté plays a large role, while evidence that other-regarding preferences have a substantial effect is weak.

We also find that individuals with more experience in collective decision-making, with greater level of strategic competence, or with more exposure to the experiment, are more likely to vote as the model predicts. Hence, the model is relatively better at predicting the behaviour of subjects that are more similar to members of real-life committees, providing some evidence for its external validity.

The rest of the paper is organised as follows. Section 2 describes the model. Section 3 presents the main theoretical results. Section 4 describes the design of the experiment. Experimental results are presented in Section 5. Section 6 discusses several extensions of the theoretical model. All proofs, except for very short ones, are in Appendix A.

Related Literature. Our paper contributes to the experimental literature on the role of information in collective decisions (see Martinelli and Palfrey, 2017, for an overview). Cason and Mui (2005) study collective decision on a reform with uncertain consequences in an experiment without information acquisition. In Goeree and Yariv (2011), committee members have private information about the outcome of a decision, and individually decide whether to share it. Plott and Llewellyn (2015) look at privately informed experts who try to influence a committee by providing recommendations. A number of papers (Elbittar et al., 2016; Grosser and Seebauer, 2016; Bhattacharya et al., 2017) have also studied acquisition of private signals by members of committees. In contrast, our paper abstracts from the role of private information and focuses on a collective decision to acquire a public signal from an outside source.

The theoretical model that we are testing is related to the growing literature on collective information acquisition. Strulovici (2010) examines a continuous-time dynamic problem of a committee that, in every round, needs to choose between a safe option and a risky option. For each member of the committee, the risky option is either good or bad. Members do not initially know their preferences, but they can learn them when the risky option is exercised. Freer et al. (2018) develop a related model with discrete time and finite horizon, and test it experimentally. In Messner and Polborn (2012), the committee chooses between adopting a proposal early and delaying the decision to acquire information. In Godefroy and Perez-Richet (2013), a committee votes whether to place a proposal on the agenda before voting on the proposal itself. Louis (2015) and Chan et al. (2017) look at committees who choose whether to acquire information about a state of the world. The main difference between these papers and our theoretical model is that we allow committee members to have conflicting preferences: some members prefer the reform to be adopted in state X only, while others favour the reform in state Y only. In contrast, in Strulovici, Messner and Polborn, and Godefroy and Perez-Richet, committee members are ex ante identical and their preferences are revealed if the committee votes to acquire information; while in Louis and Chan et al., preferences are similar in the sense that all committee members want the chosen alternative to match the state (although the intensity of preferences may differ)⁵. The fact that preferences are conflicting ex

⁵In the language of our Proposition 1, in Chan et al. and Louis, all voters belong to the set I_X . In our setup, the committee would in this case vote to learn the state. In Chan et al., the decision not to acquire

ante underlies the key theoretical result and allows us to characterise the distributions of preferences that induce a collective preference for ignorance.

Fernandez and Rodrik (1991) showed that uncertainty about payoffs can induce voters to oppose a reform even when it is welfare-enhancing in expectation, although that paper did not consider an option to learn the state before voting on the reform. Gersbach (1991) demonstrates the existence of specific payoff distributions under which a particular number of voters oppose acquiring information under a simple majority voting rule. Our model, however, goes beyond this by examining simple majority and supermajority rules and providing a full characterisation (in the former case) and general sufficient conditions (in the latter case) on individual preferences for the committee to vote against acquiring information⁶.

More broadly, the paper contributes to the theoretical literature that looks at the effects of conflicting preferences on collective decisions (Kim and Fey, 2007; Bhattacharya, 2013).

Less directly, our paper is also related to the theoretical literature on acquisition of private, rather than public, information by individual members of committees⁷. It is also related to the literature on collective search⁸, in which a committee must decide between adopting the current alternative and foregoing it to continue the search. Unlike that literature, in our theoretical model deciding to learn the state before voting on the reform does not change the payoffs from the reform. A number of researchers have also looked at factors that may motivate individuals, as opposed to committees, to avoid payoff-relevant information (See Golman et al., 2017, for an extensive overview).

information is driven by the fact that information is costly; while in Louis it occurs because information is imprecise. In contrast, in our theoretical model, conflicting preferences can induce the committee to vote against acquiring information even when it is costless and noiseless.

⁶Under a simple majority rule, the results in Gersbach (1991) correspond to a special case of the characterisation in our Proposition 1. Specifically, they describe a case in which there is a large number of sure winners, and a small number of independent voters of either kind. A further example of a particular payoff distribution under which a number of voters may oppose information is provided in Gersbach (2000). Hirshleifer (1971) shows that information can hurt risk-averse individuals in a setup unrelated to voting.

⁷See e.g. Gersbach (1995); Persico (2004); Gerardi and Yariv (2008); Gershkov and Szentes (2009); Gersbach and Hahn (2012); Oliveros (2013). In particular, Zhao (2016) looks at the role of preference heterogeneity in the acquisition of private information by committee members.

⁸Albrecht et al. (2010); Compte and Jehiel (2010); Moldovanu and Shi (2013).

2 Model

A committee I comprising n members (where n is odd) needs to decide between two alternatives, called "status quo" and "reform". Each alternative gives every member a payoff that depends on a binary state of the world $\omega \in \{X, Y\}$. For a member $i \in I$, the difference between her utility from the reform and from the status quo is x_i if the state is X and y_i if the state is Y. These utilities can be positive or negative. Let $x \equiv (x_1, x_2, ...) \in \mathbb{R}^n$ and $y \equiv (y_1, y_2, ...) \in \mathbb{R}^n$ denote vectors of individual state-dependent payoff differences. To simplify exposition we will, without loss of generality, normalise each member's payoff from the status quo to zero. Furthermore, to simplify the analysis, we will assume that $x_i, y_i \neq 0$ for all i – that is, no member is indifferent.

The state is initially unknown. Let π be the probability that the state is X. Aside from the state, all aspects of the game (including individual payoffs) are common knowledge. Before deciding between the reform and the status quo, the committee decides whether to learn the state, at no cost. If it chooses to do so, the state becomes common knowledge⁹, and members then vote on whether to adopt the reform. Otherwise, the committee has to vote on the reform without knowing the state.

All decisions (whether to learn the state, and whether to approve the reform) are made by simple majority voting¹⁰. Members cast their votes simultaneously. To avoid trivial equilibria (for example, one in which all members vote to adopt the reform regardless of their preferences), we make the usual assumption that weakly dominated actions are not played. Thus, every member votes sincerely, as if she were pivotal.

3 Theoretical Results

For a vector $z \in \mathbb{R}^n$, let $g(z) \in \{0, 1\}$ be a function whose value equals 1 if the median of z is positive. If the reform is put to vote, and z represents expected payoffs from it, the committee will adopt the reform if and only if g(z) = 1. Note that $g(z) = g(\lambda z)$ for any scalar $\lambda > 0$; and that g(z) = 1 is equivalent to g(-z) = 0 for any vector z that does not contain zeroes.

 $^{^{9}}$ Section 6 shows that the results of the model are unchanged when acquiring information gives the committee an imperfect public signal about the state.

 $^{^{10}\}mathrm{We}$ examine supermajority rules in Section 6.

Suppose the committee votes to learn the state. With probability π the state turns out to be X. If the reform is then adopted, each voter $i \in I$ receives a payoff x_i . Thus, the reform is adopted if and only if g(x) = 1. Similarly, with probability $1 - \pi$ the state turns out to be Y, and the reform is adopted (giving each member *i* a payoff y_i) whenever g(y) = 1. Thus, if the committee learns the state, the expected payoff of member *i* equals

$$\pi x_i g\left(x\right) + \left(1 - \pi\right) y_i g\left(y\right)$$

If the committee does not learn the state, then the reform, if adopted, will give each member an expected payoff of $\pi x_i + [1 - \pi] y_i$. The reform is approved whenever $g(\pi x + [1 - \pi] y) = 1$. Hence, voter *i*'s expected payoff equals

$$(\pi x_i + [1 - \pi] y_i) g (\pi x + [1 - \pi] y)$$

When deciding whether to vote for learning the state, each member compares her expected payoffs with and without information. Let v_i be the value of ignorance for member i – that is, the gain in i's expected payoff from voting on the reform without information instead of learning the state prior to voting. Then v_i equals

$$v_{i} = (\pi x_{i} + [1 - \pi] y_{i}) g (\pi x + [1 - \pi] y) - \pi x_{i} g (x) - (1 - \pi) y_{i} g (y)$$

Member *i* votes to learn the state if $v_i < 0$, and votes against learning the state if $v_i > 0$. Let $v \equiv (v_1, v_2, ...)$ be the vector of net gains from ignorance for all members. If $v_i \neq 0$ for all *i*, the committee has a collective preference for ignorance if and only if g(v) = 1, or, equivalently, if and only if g(-v) = 0. However, it is possible that v_i equals zero for some or all *i* – for example, when $g(x) = g(y) = g(\pi x + [1 - \pi] y)$. Thus, we will distinguish between a *weak* and a *strict* preference for ignorance. We will say that the committee has a weak preference for ignorance if and only if the median v_i is weakly larger than zero. Similarly, we will say that the committee has a strict preference for ignorance if and only if the median v_i is strictly larger than zero.

With this distinction in mind, we can now derive a simple necessary and sufficient condition for the committee to prefer not to learn the state.

Lemma 1. The committee has a weak preference for ignorance if and only if g(x) = g(y).

Furthermore, the committee has a strict preference for ignorance if and only if $g(x) = g(y) \neq g(\pi x + [1 - \pi] y)$.

In words, under any $\pi \in (0, 1)$, any committee weakly prefers not acquiring information if and only if the collective decisions on the reform are the same after either state is revealed. Furthermore, any committee strictly prefers not learning the state if and only if the collective decision after either state is revealed is the same, and also different from the collective decision that is made ex ante¹¹.

Intuitively, if the decision on the reform is the same in both states but different from the decision that is made without information, then information changes the decision compared to what the majority initially found optimal. Thus, the majority strictly prefers not to learn the state. If the decision on the reform is the same in the two states, and also the same as the ex ante decision, then information has no effect on outcomes, and the committee is indifferent on whether to acquire it.

Note that the necessary and sufficient condition under which the committee has a weak preference for ignorance only uses individual payoffs from the reform when the state is known with certainty. Hence, the result does not rely on individual risk preferences, which makes it easy to translate it into an experimental setting. On the other hand, the characterisation for the strict preference for ignorance does use an expected payoff $\pi x + [1 - \pi] y$. This is inconsequential in the theoretical model, since x and y are vectors of von Neumann-Morgenstern utilities. However, if x and y are instead vectors of monetary payoffs (as would be the case in an experiment), the result requires an assumption that agents are risk neutral. For this reason, we will focus on the weak preference for ignorance in most of the analysis. Note that when acquiring information carries a small cost – small in the sense that it is smaller than any payoff difference that enters a voter's utility calculations – the distinction between a weak and a strict preference for ignorance disappears¹².

We can now move to the main theoretical result of the paper, and characterise the

¹¹This implies, in particular, that when the median voter strictly prefers not to acquire information, the decision of the median voter in either state will never be implemented. This is because a strict preference for ignorance occurs when the median voter prefers a different decision ex ante than ex post in each state.

¹²An implicit assumption here is that members are ambiguity-neutral. Experimental results (see Section 5.1) suggest that even if ambiguity aversion is present, it does not affect the explanatory power of the model.

distributions of members' preferences that induce a collective preference for ignorance. Preferences of any member *i* are described by a pair (x_i, y_i) of *i*'s payoff from the reform in each state. The distribution of preferences is then described by the distribution of members over the (x, y) space.

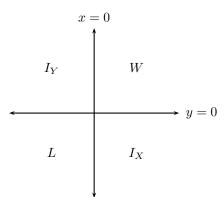


Figure 1: Distribution of preferences. The letters indicate the sets of members whose payoffs lie in each of the four quadrants.

Figure 1 illustrates the space of individual payoffs. Let W, L, I_Y , and I_X indicate the sets of members whose preference points lie in each of the four quadrants. Thus, W represents the set of "sure winners", who receive a positive payoff from adopting the reform in either state. L represents the set of "sure losers", who prefer the reform to be rejected in both states. We can refer to the sets W and L as the sets of *partisans*. I_X and I_Y are the sets of *independent* voters – they gain from the reform relative to the status quo if and only if the state is, respectively, X and Y.

For a given set of members S, let #S denote the fraction of voters who belong to that set. Then we can derive a necessary and sufficient condition for the committee to have a collective preference for ignorance:

Proposition 1. The committee has a weak preference for ignorance if and only if $|\#I_X - \#I_Y| \leq |\#W - \#L|.$

Thus, for any prior $\pi \in (0, 1)$, and any distribution of individual preferences, will vote not to learn the state if and only if independents are more divided than partians – that is, if and only if the difference between the numbers of independents of the two types is smaller than the difference between the numbers of partisans. This happens when the committee is divided, in the sense of not having a common understanding over which state, X or Y, is better for the reform. In that case, we can expect the committee to vote against acquiring information when information is costless or carries a cost that is low relative to voters' payoffs. This result is tested experimentally in Sections 4-5.

Importantly, the characterisation in Proposition 1 does not use any expected payoffs. The only factor that matters is whether each member's payoff from the reform in each state is higher than her payoff under the status quo. Hence, even though x_i and y_i are von Neumann-Morgenstern utilities in the model, replacing them with monetary payoffs (as we do in the subsequent experiment) does not change the results, as long as each individual's utility is increasing in the monetary payoff. Thus, individual attitudes towards risk have no effect on the experimental results.

Consider also a variation of the model, in which information about the state is dispersed among a large number of voters, with each voter receiving a noisy signal about the state. If individual signals are very imprecise, then all voters have (almost) the same prior belief. If all signals are made public, the society as a whole becomes more informed about the state. Certain norms and institutions – such as a strong tradition of public debate, or freedom of speech – can facilitate the exchange of individual signals. Proposition 1 suggests that societies that largely agree that some outcomes are better than others are more likely to support the existence of such institutions. On the other hand, if voters tend to have conflicting preferences (in the sense that some prefer one outcome of a collective decision, others – another outcome, and the two groups are similar in size), then the society is less likely to collectively support these institutions.

It is also useful to compare the collective preference for ignorance to the question of information aggregation through voting. Suppose again that information is dispersed among committee members. It has been shown (see e.g. Feddersen and Pesendorfer, 1997) that voting aggregates information when all voters agree that the reform is better in one state than in the other. But if individual preferences are non-monotone in the state, information is not, in general, aggregated (Bhattacharya, 2013). This paper suggests that when non-monotonicity is sufficiently strong, the committee also *chooses* not to aggregate information when it can vote to do so.

4 Experimental Design and Procedures

We tested the main theoretical result of the paper – the characterisation set out in Proposition 1 – in a controlled laboratory experiment. Experimental sessions were run at Universidad del Rosario between May and September 2016. The subjects were undergraduate students recruited across all disciplines. Each subject participated in only one experimental session.

Immediately after entering the laboratory, subjects read the instructions¹³ for 10 minutes. Then an experimental administrator read them aloud. The instructions contained several frequently asked questions (with answers) to ensure better understanding of the experiment. Two practice rounds were administered at the beginning of each experimental session. The outcomes of these rounds did not count towards the subjects' payoffs, and data from these rounds was not used in the analysis.

The span of time during which each subject made choices relevant for the experiment was less than 20 minutes (the total length of each experimental session was approximately 80 minutes). In each round, subjects were informed they had 60 seconds to reach a decision (the actual time it took subjects to make a choice was never larger than 22 seconds). The experiment was computerised and used z-Tree experimental software (Fischbacher, 2007).

In each session, subjects were asked to participate in the game described in Section 2. There were six sessions in total, each of which included 24 subjects, split into two "pools" of equal size. Each subject faced decisions over 20 rounds. At the beginning of each round, subjects inside each pool were randomly divided into three-member committees. They were then informed that the state of the world was either blue or red¹⁴, with equal probability; the state was drawn independently across rounds. This probability distribution was chosen to reduce the cognitive burden and to prevent subjective overweighting of probabilities¹⁵. As in the model, each committee first had to vote whether to learn the state. The state would be revealed if at least two out of three committee members voted in favour of it. After that, the committee had to choose (by majority voting)

¹³Instructions and experimental screens, translated into English, are shown in Online Appendix C.2.

¹⁴These labels correspond to states X and Y in the model.

¹⁵As a robustness check, we also implemented (on a sample of 48 subjects) a treatment in which the state was blue with probability 0.75. The effects of the treatment remained unchanged and are reported in Section 5.1.

between two options, called Option A and Option B.¹⁶ After the end of the round, new committees would be formed from the same pool, and a new round would begin. Since committees were redrawn every round, it is unlikely that subjects could play tit-for-tat or other history-contingent strategies¹⁷.

In each round, each subject was allocated to quadrant W, L, I_X or I_Y . If the committee selected Option A, each member would receive a payoff of 10 experimental tokens (ET), irrespective of the state. On the other hand, a subject's payoffs from Option B in the two states corresponded to a pair of integers from the set $\{1, 2, ..., 19\}^{18}$. These were then drawn from a discrete uniform distribution over the dashed line corresponding to a particular quadrant in Figure 2. The payoffs of every committee member were known to all other members of the committee.

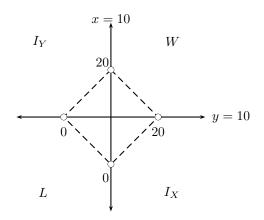


Figure 2: Possible individual payoffs from Option B.

In total, there are twenty distinct ways of anonymously allocating three subjects into four quadrants. In half of these configurations, the condition $|\#I_X - \#I_Y| \leq |\#W - \#L|$ holds, and Proposition 1 predicts that the committee should vote against acquiring information. In the other half it does not hold. The difference between these two cases constitutes the main experimental treatment. We will refer to the former case as *ignorance treatment* and to the latter case as *no ignorance treatment*.

¹⁶These correspond to, respectively, status quo and reform in the model. We used more neutral labels in the experiment to avoid possible framing effects.

¹⁷In Section 5 we show that there is indeed no evidence that committee decisions varied across time. ¹⁸In terms of the model, these numbers corresponded to $x_i + 10$ and $y_i + 10$.

During the twenty rounds, each individual was assigned to each for the twenty possible committee configurations. Thus, we implemented a within-subject design, in which each individual was subjected to ignorance treatment in ten out of twenty rounds¹⁹.

The theoretical prediction in Proposition 1 refers to a weak preference for ignorance. Thus, it describes the decision of the committee when acquiring information is either costless or imposes a negligible cost on every member. To distinguish these cases, we imposed a cost p of learning the state, which could take three levels: null cost (p = 0 ET), low cost (p = 0.1 ET), and high cost (p = 0.4 ET). The cost varied across sessions, but in each session, the same value of p applied to every member in every round. Note that all levels of p are small, in the sense that they are smaller than the possible difference in payoffs that may result from acquiring information.

A possible cause for concern is the fact that Option A, being the first of the two options, could serve as a focal point for subjects. Therefore, we controlled for order effects by reversing the labels in half of the sessions, calling the safe alternative "Option B", and the state-dependent alternative "Option A". As Section 5 shows, the results were not affected by this.

Earnings were calculated in terms of ET and exchanged into Colombian pesos at the rate of 1 ET to COP 75, which is equivalent to 40 ET to \$1. The total payment to each subject equaled the sum of her earnings over the twenty rounds (not including the first two practice rounds), plus a show-up fee that was equivalent to \$3.5. The average payment was approximately \$10, equivalent to 23% of the subjects' average weekly expenses (see Appendix C.2). Payments were privately distributed at the end of the session.

To summarise, we follow a 2×3 design: one dimension represents the variation over whether or not ignorance treatment was applied, while the other represents the three levels of information cost. Individuals face a between-subjects information cost treatment and a within-subjects ignorance treatment.

Table 1 summarises the experimental design and the number of observations. In total,

¹⁹To reduce cognitive load on subjects, we kept each subject's state-dependent payoffs (and thus the quadrant to which she was allocated) unchanged for five rounds. Then, the subject was moved anticlockwise to an adjacent quadrant, and a new pair of state-dependent payoffs was randomly drawn. This procedure was repeated until every subject had visited every quadrant. Although individual valuations were kept constant for a span of 5 rounds, in every round each individual was allocated to a different committee. Thus, from the perspective of each subject, payoffs of other committee members changed after every round. See Online Appendix C.2 for more details on how committees were formed.

we had 144 subjects, each of whom took part in 20 experimental rounds. This amounts to 960 committee-level observations and 2880 individual-level observations. Exactly half of the observations faced ignorance treatment²⁰.

Table 1: Number of individual and committee observations, based on 144 participating subjects, by treatment.

		Informati	on cost	
Observations	Null cost	Low cost	High cost	Total
Individual	960	960	960	2,880
Committee	320	320	320	960

5 Experimental Findings

5.1 Main Results

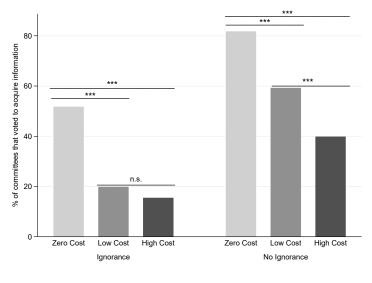
In this section we test the main theoretical result of the paper, summarised in Proposition 1. Table 2 describes the characteristics of our subjects. We find that the sample is balanced across information cost treatments: the null hypothesis that subjects' characteristics differ across information cost treatments is rejected for nearly all observed sociodemographic variables. The results of these tests, as well as more detailed sample descriptive statistics, are shown in Online Appendix C.2.

Figure 3 shows the frequency with which committees tend to acquire information under different values of information cost. Even when information is costless, committees do not always vote in favour of acquiring information. Overall, the fraction of instances in which information is acquired ranges from 67% when the cost of information is zero, to 28% when the cost of information is 0.4 ET.

More importantly, across the three different levels of information cost, committees are substantially more likely to vote for ignorance when the theory predicted them to do so.

 $^{^{20}}$ Following List et al. (2011), with this data, our sample size is sufficient to identify a minimum ignorance treatment effect of 0.065 with a power of 0.8 and a significance level of 0.05.

Specifically, under the ignorance treatment, committees vote to acquire information in 29% of cases; compared to 60% of cases when not under ignorance treatment.



*** p < 0.01, ** p < 0.05, * p < 0.1, n.s. p > 0.1

Figure 3: Committee information acquisition decisions under ignorance and no ignorance treatments.

At the same time, while the comparative statics are in line with the theoretical predictions, there is significant noise in the results: committees often acquire information under the ignorance treatment, and fail to acquire it when not under the ignorance treatment. We analyse the reasons for these deviations from theory in Section 5.2.

We now look at the effect of ignorance treatment on the committee information acquisition decision. For this, we construct a dummy variable that equals one when the committee votes to acquire information. We regress it on a dummy variable that equals one when the condition $|\#I_X - \#I_Y| \leq |\#W - \#L|$ holds for the committee – that is, when the committee is subjected to the ignorance treatment – as well as on dummies representing the cost of information in the particular session, and on demographic controls²¹.

Since committees were formed randomly in each round, committee observations are independent variables. However, across the 20 rounds, committees were formed from the same pool of 12 subjects. This can, in principle, cause standard errors to be correlated

 $^{^{21}}$ We present results obtained in a linear probability model. The results under a logit specification are very similar and are presented in the Online Appendix C.7.

across rounds. To account for the possibility of such dependence, we cluster standard errors at the pool level²². This is a conservative approach and should bias our results against finding statistical significance.

– Table 3 here –

Regression results are presented in Table 3. Column 1 shows that committees subjected to ignorance treatment are 31.3 percentage points less likely to vote for acquiring information, compared to committees not facing ignorance treatment. The coefficient is large in magnitude and statistically significant, suggesting a strong effect that is in line with the prediction of the theoretical model.

Column 2 shows that increasing the cost of information to 0.1 and 0.4 ET reduces the frequency of information acquisition by, respectively, 27.2 and 39.1 percentage points, compared to the case when information is costless. However, when ignorance treatment is interacted with information cost dummies (column 3) the resulting interaction coefficients are not statistically significant. This suggests that the cost of information does not affect the theoretical mechanism described in Proposition 1. Moreover, the fact that the coefficient on ignorance treatment is robust to controlling for the cost of information suggests that possible heterogeneity in the degree of ambiguity aversion across individuals (see Machina and Siniscalchi, 2014) does not affect our results²³.

There is also no evidence that committee behaviour in early rounds is different from their behaviour in later rounds. Columns 2 and 3 also control for order effect by including a dummy variable for sessions in which the safe alternative is labeled "Option B" – this does not seem to affect the main results.

Columns 4 and 5 show that the effect of ignorance treatment is essentially unchanged after controlling for round fixed effects and for committee-level control variables, including the percentage of female members, the percentage of students in economics or business programmes, average self-assessment of risk preferences, average participation in decision-making bodies, and average percentage of utility-maximising decisions when voting between Option A and Option B under certainty²⁴. Committee-level controls also

 $^{^{22}\}mathrm{In}$ our data, this procedure is equivalent to clustering on the "chunk" level done in Cooper and Kagel (2005).

²³Changing the cost of acquiring information is a way to control for this heterogeneity: ambiguity-averse individuals are more likely to keep voting to acquire information when the cost increases.

²⁴Although the associated coefficients are not reported here, they are available upon request.

include a measure of payoff inequality within the committee, defined as the Gini coefficient on individual payoffs under Option B in the Blue or in the Red state, whichever is larger. We control for this variable because there is concern that subjects may be inequality-averse (see Cooper and Kagel, 2013). This may bias subjects towards selecting Option A without acquiring information, as it would give the same payoff to all committee members²⁵. Nevertheless, the significance and magnitude of ignorance treatment effect is robust to including inequality or social efficiency measures (in the form of expected payoffs) in the regressions²⁶.

We also test the theoretical channel proposed in Proposition 1 under asymmetric prior beliefs. To do this, we set the probability that the state was Blue at 0.75. This was done over two additional sessions, on a sample of 48 subjects (equivalent to 16 committees). In one session, subjects faced null information cost, while in the other they faced the high information cost. In both sessions, the safe option was labelled "Option B".

We pool this data with the data on the 48 other subjects who faced the same treatment (null and high information cost, and Option B as the safe option) under a symmetric prior. Overall, in this subsample, the rates of information acquisition are not substantially different across priors: committees acquire information in 51% of cases under symmetric prior, and in 49% of cases under asymmetric prior. Furthermore, regression results for this subsample, presented in Table 4, show that the coefficients on the asymmetric prior dummy, as well as on the interaction terms, are not statistically significant. Thus, we find no evidence that prior belief has a substantial effect on the rate of information acquisition or on the theoretical mechanism of the model. This suggests that Proposition 1 holds not only when the prior belief is symmetric, but also more generally.

– Table 4 here –

To summarise, the experimental results provide evidence in favour of Proposition 1:

 $^{^{25}}$ The significance and magnitude of our treatment effects do not change when the mean absolute deviation, the ratio between the maximum and minimum valuations of Option B, or the sum of expected payoffs from Option B (which would allow for subjects that maximise social welfare) are used instead of the Gini coefficient.

 $^{^{26}}$ While not affecting the treatment effect, the coefficients on inequality measures are negative and significant at 5% level when controlling for round fixed effects. This provides some evidence in favour of the above intuition. Paetzel et al. (2014) show experimental evidence on how social preferences affect voting when outcomes of reforms are uncertain.

when the condition in that proposition holds, the committee is substantially less likely to acquire information.

5.2 Individual Behaviour and Deviations from Theory

While experimental results are broadly in line with the theoretical predictions, they still contain noise. As Figure 3 shows, deviations from theory are present: for example, when the cost of information is zero, many committees acquire information even under the ignorance treatment. This implies that subjects' behaviour is, at times, inconsistent with theoretical predictions²⁷. In this section we will look at factors that can explain these deviations.

We consider two potential explanations. First, subjects may have preferences for altruism or fairness that would induce them to vote differently from how a purely self-regarding individual would vote. An altruistic individual may favour acquiring information if it increases the payoffs of other committee members, even if it has a negative effect on her own payoff. In particular, she may vote for learning the state whenever doing so increases utilitarian welfare. An inequality-averse individual may have a preference for Option A over Option B, because the former gives every committee member an identical payoff. Since payoffs from Option A do not depend on the state, she may prefer not to learn it, particularly if doing so is costly. This effect would be more pronounced the more unequal the payoffs under Option B are.

Second, deviations from equilibrium behaviour may be caused by cognitive limitations. The model expects individuals to be strategically sophisticated, predicting the votes of other committee members when either state is revealed. The existing empirical and experimental evidence on strategic sophistication in voting situations suggests, however, that at least in some cases, voters are unable to perform backwards induction (Esponda and Vespa, 2014; Dal Bó et al., 2017; Spenkuch et al., 2018).

If a voter is unable to consider the behaviour of other voters when making decisions, she will act as if her decision were the only factor that affects the outcome. Thus, a strategically naïve voter will support acquiring information if and only if information

 $^{^{27}}$ In our sample, 65% of individual votes on information acquisition were in line with the theory. For different costs of acquiring information this share ranged from 60% to 70%.

affects her preferred choice between Option A and Option B. Hence, a naïve subject will prefer learning the state if she is an independent voter, but not if she is a partisan.

To determine whether these factors affect individual behaviour, we perform individuallevel regressions in which the dependent variable is a dummy that equals one whenever the subject votes to acquire information. We regress this variable on a dummy that equals one whenever v_i was negative – i.e. whenever the theoretical mechanism of the model predicts that the subject votes to acquire information. To analyse the effect of social preferences, we also regress it on the utilitarian welfare effect of acquiring information (which equals $-\sum_{i \in I} v_i$) and on committee inequality under Option B (defined as the Gini coefficient on individual payoff distribution from Option B under Blue or Red state, whichever is larger). To determine the effect of strategic naïvité, we regress the dependent variable on the quadrant (I_X , I_Y , W or L) to which the subject belongs. Finally, we control for the cost of information, and for individual characteristics. In all regressions, we compute robust standard errors clustered at subject level to account for possible dependence between decisions across rounds.

The results are presented in Table 5. They provide evidence for some degree of strategic naïvité: controlling for the theoretical prediction (i.e. the sign of v_i), subjects are more likely to vote for acquiring information if they are independent voters than if they are partisans, even when individual and round fixed effects are taken into account (column 6). The coefficients on the variables measuring social preferences have the expected signs: greater social value of information and lower inequality under Option B make individuals more likely to vote for information acquisition. Nevertheless, these coefficients are small in magnitude: the results from column 6 suggest that changing inequality or the welfare effect of information by one standard deviation changes the probability of a subject voting for information acquisition by, respectively 2.16 and 1.67 percentage points (there is also no evidence that the effect of social efficiency of information is different from zero, when we control for individual fixed effects).

At the same time, the theoretical mechanism of the model is still a predictor of individual votes: the coefficient on the sign of v_i has the expected sign, is substantial in magnitude, is statistically significant, and when controlling for cognitive limitations, social preferences, and various individual characteristics (among the latter, we find that females and subjects who report higher willingness to take risks are significantly less likely to vote for information acquisition). It is also robust to controlling for round fixed effects, the magnitude of the absolute value of ignorance, and even for individual unobservable factors²⁸.

Overall, we can conclude that an individual is significantly more likely to vote against acquiring information when the theory predicts her to do so. Strategic naïvité seems to play a substantial role in explaining deviations from the theoretical predictions. Evidence of the effect of social preferences on individual decisions is weak.

– Table 5 here –

5.3 Evidence of External Validity

Which individual characteristics make subjects more likely to vote the way the model predicts them to vote? As we show below, the model fits the data best when subjects are more similar to members of real-life decision-making bodies.

To do this, we construct a dummy variable that equals one whenever the subject votes in the way the model predicts her to vote. Thus, the dummy equals one if the subject votes to acquire information and her v_i is negative, or if she votes against acquiring information and her v_i is positive; in all other cases, the dummy equals zero. We regress that variable (see Table 6) on information cost dummies (column 1), on the quadrant to which the subject belongs (column 2), and on individual demographic characteristics (column 3). We also control for the fraction of instances in which, when the state is known, the subject made a utility-maximising decision when choosing between options A and B.

Note the positive and statistically significant coefficient on the number of decisionmaking bodies (such as high school or university student councils) in which the subject participated. Thus, individuals with more experience in actual collective decision-making are more likely to act in line with the model. At the same time, subjects who assess themselves as more strategic in their behaviour are also more likely to vote according to theory. Furthermore, the likelihood of making a payoff-maximising vote after the state is known is positively correlated with the likelihood of a theory-consistent vote on the

 $^{^{28}}$ When analysing individual behaviour we also find that 95.8% of subjects under high information cost treatment behave in accordance with what the theory predicts in at least half of the rounds. For the low and null information cost this rate is 89.6% and 77.1% respectively.

information acquisition decision. Additionally, the coefficient on the round (from 1 to 20) is also positive and significant, suggesting that learning is present: subjects become increasingly more likely to act in the way the model predicts them to^{29} .

These results provide evidence for the model's external validity. The model is relatively better at predicting behaviour of individuals who have participated in collective decisionmaking, who have greater strategic competence, who tend to maximise utility, or who have had more exposure to collective decision-making from previous rounds of the experiment. Thus, the model is more likely to make a correct prediction when subjects resemble members of actual committees.

What if all subjects were of that kind? To have a rough measure of how "realistic" committees would vote, we restrict the sample to rounds 10-20 only, and focus only on subjects with some experience in decision-making bodies and with a high level of strategic sophistication. In that subset of the data, the share of individual votes on information acquisition that are consistent with the theory rises to 88.3%. A simple calculation shows that if committees were to consist of these individuals only (assuming that mistakes are distributed uniformly), the fraction of times a majority would vote according to theory would reach 96%.

– Table 6 here –

6 Extensions to the Theoretical Model

Commitment to Learning. Some decision rules can impose learning regardless of the committee's preference. For example, legislatures are often required to have several readings before a bill is passed. Consulting external experts is sometimes mandatory. An informal tradition of deliberation or public debate can also serve as a commitment device imposing a certain amount of information acquisition. When are such commitments optimal?

Formally, consider a social planner who has an option to force the committee to learn the state before voting on the reform. The planner does not know the state, but she knows

²⁹At the same time, as Table 5 shows, subjects do not become either more or less likely to vote for acquiring information. This suggests that learning reduces noise in individual decisions, rather than moving the vote in a particular direction.

individual preferences. Suppose that she judges outcomes based on a welfare function $w : \mathbb{R}^n \to \mathbb{R}$ which maps expected payoffs of members to social welfare. Normalise w(0, 0, ..) to zero. Then ex ante, the reform is welfare-improving if and only if $w(\pi x + [1 - \pi] y) > 0$.

Let $sign(\cdot)$ be the sign (positive or negative) of a scalar. To simplify notation, denote $d(z) \equiv g(z) - \frac{1}{2}$. Then without information, the reform is adopted if and only if $d(\pi x + [1 - \pi]y) > 0$. This implies the following result:

Proposition 2. A commitment to learning is weakly optimal if sign $[d(\pi x + [1 - \pi] y)] \neq$ sign $[w(\pi x + [1 - \pi] y)]$, and is weakly harmful if sign $[d(\pi x + [1 - \pi] y)] = sign [w(\pi x + [1 - \pi] y)]$.

To see the intuition, note that if the committee votes to acquire information, a commitment to learning has no effect. If the committee votes against acquiring information, then the commitment either has no effect (if the decision on the reform in both states is the same as the decision ex ante), or it can change the eventual decision on the reform. Such a change is welfare-improving if and only if the decision that is made without information is different from the welfare-maximising decision.

Corollary 1. If $w(\cdot)$ is a utilitarian welfare function, then the commitment to learning is weakly optimal if the mean and the median of $\pi x + [1 - \pi] y$ have different signs, and weakly harmful if the mean and the median of $\pi x + [1 - \pi] y$ have the same signs.

Proof. d(z) has the same sign as the median of z; while w(z) has the same sign as the average of z.

Intuitively, consider an ordering of members according to their ex ante expected payoffs from the reform. Suppose the expected payoffs are positive for a majority of members, but for the remaining minority the expected payoffs are negative and large in magnitude, so that the mean of $\pi x + [1 - \pi] y$ is negative, and hence it is optimal not to adopt the reform. Because the median of $\pi x + [1 - \pi] y$ is positive, the reform is adopted. A commitment to learning either does not change this decision, or, if it does, it increases welfare. A similar outcome emerges if the median of $\pi x + [1 - \pi] y$ is negative and the mean is positive.

Hence, a commitment to learning – such as a constitutional guarantee of transparency – either has no effect on the collective decision, or moves the decision in favour of those who are ex ante in the minority. Doing so is optimal when that minority has a large stake in the decision. Imperfect Signals. Suppose that the committee cannot learn the state with certainty, but can instead choose to acquire a noisy binary signal about the state. Each realisation of the signal induces a particular collective decision on the reform. Then the same intuition that underlies Lemma 1 suggests that the committee will have a weak preference for ignorance when these collective decisions are the same, and a strict preference for ignorance when these decisions are, in addition, different from the decision that is made ex ante. This implies a result similar in spirit to Proposition 1. These results are formally derived in the Online Appendix.

Generic Information Structures. Instead of having a binary set of states, we can also consider a more general information environment. Suppose there is an arbitrary finite set of states, with some prior. The committee can vote to replace the prior with some partition. If they do so, they learn the element of the partition that contains the true state. We can refer to a generic element of the partition as a message.

This is formally modelled in Online Appendix, and the basic result is as follows. Take all messages that induce a collective decision different from the one made without information. Now suppose the committee learns that one of such messages will be received, without knowing which one. If, given this knowledge, the committee also makes the decision different from the one made without information, then the committee will vote to acquire information. When the state space is binary, the result of Lemma 1 emerges as a special case of this result.

Supermajority Voting Rules. The preceding analysis has assumed that the committee makes all decisions by simple majority. If instead the committee needs a supermajority to acquire information and to adopt the reform, then we can show (see Online Appendix) that the characterisation in Lemma 1 is a sufficient, although not a necessary, condition for the committee to have a collective preference for ignorance.

7 Conclusions

The aim of this paper was to analyse a committee's choice of acquiring information prior to making a decision. We showed that the committee votes not to learn the state if and only if independent voters are more divided than partians. These theoretical predictions are supported by evidence from a laboratory experiment. We observe that committees are significantly more likely to vote against acquiring information when the theory predicts them to do so. This happens when information is costless as well as when there is a small or a moderate cost of acquiring it.

Can these results, which are based on student subjects in a laboratory, be applied to explain the behaviour of members of real-life committees? Our data shows that subjects who are more similar to members of actual decision-making bodies – that is, who are more experienced and more strategically sophisticated – behave closer to theory, providing evidence for external validity of the model. To further check the external validity, one could test the model using observational data from actual votes in political bodies. We leave this potential extension for future research.

At the same time, we observed deviations from the theoretical predictions. In particular, committees often vote to acquire information when the theory predicts them to vote against it. Our results suggest that this is to a large extent explained by strategic naïvité. Subsequent research could aim to explicitly incorporate voters with different levels of strategic sophistication into the theoretical model.

It is also worth noting that our paper has focused on weak collective preference for ignorance, which does not depend on individual risk preferences. By allowing for a negative cost of information acquisition, future research might experimentally test the strict preference for ignorance. Doing this would require recovering individual risk preferences, modifying payoffs based on them, and ensuring that risk preferences are commonly known.

References

- Albrecht, James, Axel Anderson, and Susan Vroman, "Search by committee," Journal of Economic Theory, 2010, 145 (4), 1386–1407.
- Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg, "Fractionalization," Journal of Economic Growth, 2003, 8 (2), 155–194.

- Beach, Brian and Daniel B. Jones, "Gridlock: Ethnic Diversity in Government and the Provision of Public Goods," *American Economic Journal: Economic Policy*, February 2017, 9 (1), 112–36.
- Bhattacharya, Sourav, "Preference Monotonicity and Information Aggregation in Elections," *Econometrica*, 2013, *81* (3), 1229–1247.
- _, John Duffy, and SunTak Kim, "Voting with endogenous information acquisition: Experimental evidence," Games and Economic Behavior, 2017, 102, 316–338.
- Bó, Ernesto Dal, Pedro Dal Bó, and Erik Eyster, "The demand for bad policy when voters underappreciate equilibrium effects," *The Review of Economic Studies*, 2017, 85 (2), 964–998.
- Cason, Timothy N. and Vai Lam Mui, "Uncertainty and resistance to reform in laboratory participation games," *European Journal of Political Economy*, 2005, 21 (3), 708–737.
- Chan, Hing Chi Jimmy, Alessandro Lizzeri, Wing Suen, and Leeat Yariv, "Deliberating Collective Decisions," *The Review of Economic Studies*, 2017.
- Collier, Paul, "Implications of ethnic diversity," *Economic Policy*, 2001, 16 (32), 127–166.
- Compte, Olivier and Philippe Jehiel, "Bargaining and majority rules: A collective search perspective," *Journal of Political Economy*, 2010, *118* (2), 189–221.
- Cooper, David J and John H Kagel, "Are two heads better than one? Team versus individual play in signaling games," *The American Economic Review*, 2005, 95 (3), 477–509.
- and __, "Other-regarding preferences," in J. Kagel and A. Roth, eds., The Handbook of Experimental Economics, Vol. 2, Princeton: Princeton University Press, 2013, chapter 4, pp. 217–289.
- Dohmen, Thomas, Armin Falk, David Huffman, and Uwe Sunde, "Individual risk attitudes: Measurement, determinants, and behavioral consequences," *Journal of the European Economic Association*, 2011, 9 (3), 522–550.

- **Dustmann, Christian and Joseph-Simon Görlach**, "The economics of temporary migrations," *Journal of Economic Literature*, 2016, 54 (1), 98–136.
- Elbittar, Alexander, Andrei Gomberg, César Martinelli, and Thomas R Palfrey, "Ignorance and bias in collective decisions," *Journal of Economic Behavior & Organization*, 2016.
- Esponda, Ignacio and Emanuel Vespa, "Hypothetical thinking and information extraction in the laboratory," *American Economic Journal: Microeconomics*, 2014, 6 (4), 180–202.
- Feddersen, Timothy and Wolfgang Pesendorfer, "Voting behavior and information aggregation in elections with private information," *Econometrica: Journal of the Econometric Society*, 1997, pp. 1029–1058.
- Fernandez, Raquel and Dani Rodrik, "Resistance to reform: Status quo bias in the presence of individual-specific uncertainty," *The American Economic Review*, 1991, pp. 1146–1155.
- Fischbacher, Urs, "z-Tree: Zurich toolbox for ready-made economic experiments," *Experimental Economics*, 2007, 10 (2), 171–178.
- Freer, Mikhail, César Martinelli, and Siyu Wang, "Collective experimentation: a laboratory study," 2018.
- Gerardi, Dino and Leeat Yariv, "Information acquisition in committees," *Games and Economic Behavior*, 2008, 62 (2), 436–459.
- Gersbach, Hans, "The value of public information in majority decisions," *Economics* Letters, 1991, 35 (3), 239–242.
- ____, "Information efficiency and majority decisions," Social Choice and Welfare, 1995, 12 (4), 363–370.
- _, "Public information and social choice," Social Choice and Welfare, 2000, 17(1), 25–31.
- and Volker Hahn, "Information acquisition and transparency in committees," International Journal of Game Theory, 2012, 41 (2), 427–453.

- Gershkov, Alex and Balázs Szentes, "Optimal voting schemes with costly information acquisition," *Journal of Economic Theory*, 2009, 144 (1), 36–68.
- Godefroy, Raphael and Eduardo Perez-Richet, "Choosing choices: Agenda selection with uncertain issues," *Econometrica*, 2013, *81* (1), 221–253.
- Goeree, Jacob K. and Leeat Yariv, "An Experimental Study of Collective Deliberation," *Econometrica*, 2011, 79 (3), 893–921.
- Golman, Russell, David Hagmann, and George Loewenstein, "Information Avoidance," Journal of Economic Literature, March 2017, 55 (1), 96–135.
- Grosser, Jens and Michael Seebauer, "The curse of uninformed voting: An experimental study," *Games and Economic Behavior*, 2016, *97*, 205–226.
- Habyarimana, James, Macartan Humphreys, Daniel N Posner, and Jeremy M
 Weinstein, "Why does ethnic diversity undermine public goods provision?," The American Political Science Review, 2007, 101 (04), 709–725.
- **Hirshleifer, Jack**, "The private and social value of information and the reward to inventive activity," *The American Economic Review*, 1971, pp. 561–574.
- Kim, Jaehoon and Mark Fey, "The swing voter's curse with adversarial preferences," Journal of Economic Theory, 2007, 135 (1), 236–252.
- List, John A, Sally Sadoff, and Mathis Wagner, "So you want to run an experiment, now what? Some simple rules of thumb for optimal experimental design," *Experimental Economics*, 2011, 14 (4), 439.
- Louis, Philippos, "Learning aversion and voting rules in collective decision making," Economics Letters, 2015, 133, 24 – 26.
- Machina, Mark J and Marciano Siniscalchi, "Ambiguity and ambiguity aversion," Handbook of the Economics of Risk and Uncertainty, 2014, 1, 729–807.
- Martinelli, César and Thomas R Palfrey, "Communication and Information in Games of Collective Decision: A Survey of Experimental Results," Technical Report, George Mason University, Interdisciplinary Center for Economic Science 2017.

- Messner, Matthias and Mattias K Polborn, "The option to wait in collective decisions and optimal majority rules," *Journal of Public Economics*, 2012, 96 (5), 524–540.
- Miguel, Edward and Mary Kay Gugerty, "Ethnic diversity, social sanctions, and public goods in Kenya," *Journal of Public Economics*, 2005, 89 (11), 2325–2368.
- Moldovanu, Benny and Xianwen Shi, "Specialization and partisanship in committee search," *Theoretical Economics*, 2013, 8 (3), 751–774.
- Oliveros, Santiago, "Abstention, ideology and information acquisition," Journal of Economic Theory, 2013, 148 (3), 871–902.
- Paetzel, Fabian, Rupert Sausgruber, and Stefan Traub, "Social preferences and voting on reform: An experimental study," *European Economic Review*, 2014, 70, 36–55.
- **Persico**, Nicola, "Committee design with endogenous information," *The Review of Economic Studies*, 2004, 71 (1), 165–191.
- Plott, Charles R. and Morgan Llewellyn, "Information transfer and aggregation in an uninformed committee: A model for the selection and use of biased expert advice," *European Journal of Political Economy*, 2015, 40, 208–223.
- Spenkuch, Jörg L, B Pablo Montagnes, and Daniel B Magleby, "Backward Induction in the Wild? Evidence from Sequential Voting in the US Senate," American Economic Review, 2018, 108 (7), 1971–2013.
- Strulovici, Bruno, "Learning while voting: Determinants of collective experimentation," *Econometrica*, 2010, 78 (3), 933–971.
- **Zhao, Xin**, "Heterogeneity and Unanimity: Optimal Committees with Information Acquisition," 2016.

Appendix

A Proofs

Proof of Lemma 1. If $g(x) = g(y) = g(\pi x + [1 - \pi] y)$, then $v_i = 0$, $\forall i \in I$, so all voters are indifferent and hence have a weak, but not a strict, preference for ignorance. If g(x) = g(y) = 1 and $g(\pi x + [1 - \pi] y) = 0$, then $g(v) = g[-(\pi x + [1 - \pi] y)] = 1$. If g(x) = g(y) = 0 and $g(\pi x + [1 - \pi] y) = 1$, then $g(v) = g(\pi x + [1 - \pi] y) = 1$. In both cases, the committee has both a weak and a strict preference for ignorance.

If g(x) = 1 and $g(y) = g(\pi x + [1 - \pi] y) = 0$, then $v = -\pi x$, so $g(v) = g(-\pi x) = g(-x) = 0$. If g(y) = 1 and $g(x) = g(\pi x + [1 - \pi] y) = 0$, then $v = -[1 - \pi] y$, so $g(v) = g(-[1 - \pi] y) = g(-y) = 0$. If g(x) = 0 and $g(y) = g(\pi x + [1 - \pi] y) = 1$, then $v = \pi x$, so $g(v) = g(\pi x) = 0$. If g(y) = 0 and $g(x) = g(\pi x + [1 - \pi] y) = 1$, then $v = [1 - \pi] y$, so $g(v) = g([1 - \pi] y) = 0$. In these cases, the committee has neither a weak nor a strict preference for ignorance.

Proof of Proposition 1. The condition g(x) = g(y) holds if and only if either g(x) = g(y) = 1, or g(x) = g(y) = 0. The former condition says that $\#W + \#I_X \ge \frac{1}{2}$ and $\#W + \#I_Y \ge \frac{1}{2}$, which is equivalent to $\#W + \min\{\#I_X, \#I_Y\} \ge \frac{1}{2}$. The latter condition says that $\#L + \#I_X \ge \frac{1}{2}$ and $\#L + \#I_Y \ge \frac{1}{2}$, which is equivalent to $\#L + \min\{\#I_X, \#I_Y\} \ge \frac{1}{2}$. Hence, the condition g(x) = g(y) is equivalent to

$$\#W + \min\{\#I_X, \#I_Y\} \ge \frac{1}{2} \text{ or } \#L + \min\{\#I_X, \#I_Y\} \ge \frac{1}{2}$$

This can be written as $\max \{\#W, \#L\} + \min \{\#I_X, \#I_Y\} \ge \frac{1}{2}$, which is equivalent to $\max \{\#W, \#L\} + \min \{\#I_X, \#I_Y\} \ge \min \{\#W, \#L\} + \max \{I_X, I_Y\}$. Rearranging the latter expression yields $\max \{\#W, \#L\} - \min \{\#W, \#L\} \ge \max \{I_X, I_Y\} - \min \{\#I_X, \#I_Y\}$, which is equivalent to the condition in the proposition. \Box

Proof of Proposition 2. If $g(x) = g(y) = g(\pi x + [1 - \pi]y)$, then the decision on the reform is the same with or without information, so a commitment to learning has no effect. If $g(x) \neq g(y)$, the committee chooses to learn the state, so a commitment to learning again has no effect. The only case when it does have an effect is when $g(x) = g(y) \neq g(\pi x + [1 - \pi]y)$. Suppose that g(x) = g(y) = 1 and $g(\pi x + [1 - \pi] y) = 0$. Then, $d(\pi x + [1 - \pi] y) < 0$. Without a commitment to learning, the committee votes not to acquire information and then rejects the reform, giving each member a payoff of zero. With a commitment to learning, the reform is adopted in either state, so the expected payoff of each voter i is $\pi x_i + [1 - \pi] y_i$. Commitment to learning is then socially optimal iff $w(\pi x + [1 - \pi] y) > 0$. Now suppose that g(x) = g(y) = 0 and $g(\pi x + [1 - \pi] y) = 1$, hence $d(\pi x + [1 - \pi] y) > 0$. Without a commitment to learning, the committee votes not to learn the state and then adopts the reform, giving each voter i an expected payoff of $\pi x_i + [1 - \pi] y_i$. With a commitment to learning is then socially optimal iff $0 > w(\pi x + [1 - \pi] y)$. Hence, whenever $sign[d(\pi x + [1 - \pi] y)] \neq sign[w(\pi x + [1 - \pi] y)]$, commitment to learning either has no effect, or is socially preferable. But when $sign[d(\pi x + [1 - \pi] y)] = sign[w(\pi x + [1 - \pi] y)]$, commitment to learning is no effect, or is socially harmful.

B Tables

Table 2: Sample descr	riptive sta	atistics	
	(1)	(2)	(3)
	\mathbf{N}	lean by i	nfo cost
	Zero	Low	High
Female	0.48	0.54	0.60
Econ/Business undergrad	0.42	0.52	0.40
Risk taking level	6.79	6.42	6.40
Information strategy	2.23	2.33	2.23
Fraction of utility-maximising decisions	0.91	0.94	0.93
Voted at least once	0.69	0.62	0.79
Number of decision-making bodies	0.79	0.67	0.67

Note: Econ/Business related undergrads includes Economics, International Business Administration and Finance and International Trade students. Risk taking level, following, ranges from 0 to 10, where 0 represents "not at all willing to take risks" and 10 means "very willing to take risks". Information strategy represents how strategic individuals were when deciding on information acquisition choices (categories for subjects' responses; 1 represents the least strategic behaviour -i.e. taking into account his own payoffs only; and 3 represents the most strategic behaviour -i.e. taking into account the others' payoffs and their potential choices). Fraction of utility-maximising votes is the fraction of utility-maximising decisions when voting between Option A and Option B. Voting at least once indicates whether the individual has voted in either school, college, local, parliamentary or presidential elections. The last variable shows whether the individual participated in zero, one, or at leas 24 wo decision-making bodies, including high school, college

Table 3: Linear estimation of committee information acquisition decision	nittee info	ormation	acquisitie	on decisic	u
Dep Var: 1[Committee voted to acquire information]	(1)	(2)	(3)	(4)	(5)
	***0		***00000	*** * * *	+++ 1
Ignorance treatment	-0.313***	-0.313***	-0.300***	-0.311^{***}	-0.307***
	(0.045)	(0.045)	(0.065)	(0.062)	(0.064)
Low cost of information (0.1)		-0.272***	-0.225**	-0.211^{***}	-0.210^{***}
		(0.046)	(0.092)	(0.065)	(0.065)
High cost of information (0.4)		-0.391***	-0.419^{***}	-0.391^{***}	-0.389***
		(0.063)	(0.077)	(0.065)	(0.064)
Ignorance treatment×Low cost of information			-0.094	-0.087	-0.090
			(0.115)	(0.116)	(0.117)
Ignorance treatment×High cost of information			0.056	0.065	0.062
			(0.078)	(0.075)	(0.078)
Order		0.063	0.063		
		(0.050)	(0.050)		
Round		-0.002	-0.002	-0.000	
		(0.004)	(0.004)	(0.004)	
Constant	0.604^{***}	0.817^{***}	0.811^{***}	1.541^{**}	1.578^{**}
	(0.063)	(0.047)	(0.061)	(0.512)	(0.511)
Committee controls	N_{O}	No	N_{O}	$\mathbf{Y}_{\mathbf{es}}$	\mathbf{Yes}
Round fixed effects	N_{O}	N_{O}	N_{O}	N_{O}	$\mathbf{Y}_{\mathbf{es}}$
Observations	096	960	960	960	960
R^2	0.099	0.211	0.215	0.253	0.272
Note: Robust standard errors clustered at pool level in parentheses. Ignorance treatment is a dummy variable that equals one for observations where	nce treatment is	a dummy varial	ole that equals c	one for observation	ons where

individual payoffs under the state-dependent alternative), share of female members, share of students in economics- and business- related programmes the theory predicts a collective preference for ignorance. Low cost and high cost are dummy variables indicating that the cost of information was 0.1 alternative was labeled Option B, instead of Option A. Committee controls include a measure of committee inequality (maximum Gini coefficient on participated, average degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), and average fraction of utility-maximising decisions and 0.4, respectively, compared to the default cost of zero. Order is a dummy variable identifying sessions where the state-independent status quo (including Economics, International Business Administration and Finance and International Trade students), average year of studies, average self-assesment of wilingness to take risks (on a 0 to 10 scale), average number of decision-making bodies in which committee members have when voting between Option A and Option B. Ř C

ГТ				(1)	(0)	(0)
Ignorance treatment	-0.244***	-0.244***	-0.225**	-0.236**	-0.229**	-0.254**
	(0.039)	(0.039)	(0.077)	(0.076)	(0.081)	(0.07)
High cost of information (0.4)	~	-0.450^{***}	-0.469***	-0.417***	-0.412^{***}	-0.437***
		(0.069)	(0.068)	(0.111)	(0.111)	(0.109)
Asymmetric prior		-0.019	0.019	0.052	0.054	0.030
		(0.069)	(0.068)	(0.047)	(0.048)	(0.048)
Ignorance treatment × High cost of information			0.038	0.048	0.041	0.090
			(0.071)	(0.074)	(0.077)	(0.098)
Ignorance treatment × Asymmetric prior			-0.075	-0.070	-0.073	-0.024
			(0.071)	(0.071)	(0.072)	(0.136)
High cost×Asymmetric prior				-0.055	-0.051	-0.002
				(0.154)	(0.155)	(0.165)
Ignorance treatment ×High cost×Asymmetric prior						-0.099
						(0.142)
Round		-0.010^{**}	-0.010^{**}	-0.008**		
		(0.003)	(0.003)	(0.004)		
Constant	0.622^{***}	0.975^{***}	0.966^{***}	1.877^{**}	1.751^{*}	1.763^{*}
	(0.095)	(0.061)	(0.075)	(0.748)	(0.797)	(0.791)
Committee controls	No	No	No	Yes	Yes	Yes
Round fixed effects	N_{O}	No	No	No	\mathbf{Yes}	\mathbf{Yes}
Obs	640	640	640	640	640	640
R^2	0.059	0.274	0.276	0.297	0.314	0.314

Table 4: Linear estimation of group information acquisition decision under symmetric and asymmetric priors

economics- and business- related programmes (including Economics, International Business Administration and Finance and International Trade students), average year ignorance. High cost is a dummy variable indicating that the cost of information was 0.4, compared to the default cost of zero. Asymmetric prior is a dummy variable identifying the sessions where the prior probability of Blue state being zero equaled 0.75, compared to sessions where it equaled 0.5. Committee controls include a measure of payoff inequality (maximum Gini coefficient on individual payoffs under the state-dependent alternative), share of female members, share of students in

participated, average degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), and the average fraction of utility-maximising decisions when voting

between Option A and Option B.

of studies, average self-assessment of willigness to take risks (on a 0 to 10 scale), average number of decision-making bodies in which committee members have

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$\mathbb{1}[v_i < 0]$ Low cost of information (0.1) High cost of information (0.4)	(1)	(1) (2)	(3)	(4)	(5)	(9)
	906 0	0 1 /0	0 11 2***	**080 U	**000 0	0 103***
Low cost of information (0.1) High cost of information (0.4)	(0.095)	(U U 027)		(0.041)	0.032 (0.043)	(0 U39)
High cost of information (0.4)	(070.0)	-0.203^{***}	-0.243^{***}	-0.237^{***}	-0.236^{***}	(2000)
High cost of information (0.4)		(0.040)	(0.048)	(0.048)	(0.048)	
		-0.296^{***}	-0.289***	-0.274***	-0.273***	
		(0.041)	(0.044)	(0.045)	(0.044)	
$\mathbb{I}[v_i < 0] \times \text{Low cost of information}$			0.102 (0.069)	0.090	0.090	
$\mathbb{1}[v_i < 0] \times \text{High cost of information}$			-0.016	-0.022	-0.023	
)			(0.057)	(0.058)	(0.059)	
Order		0.042	0.042	0.044	0.043	
D		(0.032)	(0.032)	(0.036)	(0.036)	
DITION		(600.0-	(600 0)	(600 0)	(600 0)	
Committee inequality		(=0000)	(=00.0)	-0.330^{***}	-0.327^{***}	-0.195*
4				(0.087)	(0.087)	(0.099)
Welfare effect of information				0.010^{**}	0.011^{**}	0.007
				(0.005)	(0.005)	(0.005)
[<i>V</i> ₂]					-0.002)	0.004 (0.007)
Individual-level variables					(0000)	(10010)
$Quadrant = I_Y$		0.164^{***}	0.164^{***}	0.178^{***}	0.178^{***}	0.179^{***}
		(0.035)	(0.035)	(0.036)	(0.036)	(0.037)
Quaurant = L		-0.1080)	-0.100	-0.136	-0.138	-0.132)
$Quadrant = I_X$		0.186^{***}	0.186^{***}	0.202^{***}	0.201^{***}	0.203^{***}
		(0.035)	(0.035)	(0.035)	(0.035)	(0.036)
Constant	0.338^{***}	0.531^{***}	0.541^{***}	0.891^{***}	0.892^{***}	0.154^{***}
Individual controls	No	No	No	Yes	Yes	No
Round fixed effects	N_{O}	No	No	No	No	\mathbf{Yes}
Individual fixed effects	No	No	No	No	No	Yes
Observations	2,880	2,880	2,880	2,880	2,880	2,880
R^2	0.084	0.207	0.210	0.225	0.225	0.371
Note: Robust s.e. clustered at individual level in parentheses. $\mathbb{1}[v_i < 0]$ is a dummy indicating when theory predicts individuals should vote for acquiring	rentheses. $\mathbb{1}[v_i]$	< 0] is a dummy i	ndicating when the	sory predicts indivi	duals should vote	for acquiring
information. Low cost and high cost are dummy variables indicating that the cost of information was 0.1 and 0.4, respectively, compared to the default cost of zero. Order is a dummy variable identifying sessions where the state-independent status cuto alternative was labeled Ontion B. instead of Ontion A. Committee inconslity	iables indicating e the state-inder	; that the cost of ir endent status mo	uformation was 0.1 alternative was lal	and 0.4, respective veled Ontion B ins	ely, compared to th stead of Ontion A	ie default cost of zero Committee inequality
is the maximum Gini coefficient on individual payoffs under the state-dependent alternative. The next variable is the effect of information on utilitarian welfare	is under the stat	e-dependent altern	ative. The next va	riable is the effect	of information on	utilitarian welfare
function. $ v_i $ is the absolute value of the value of ignorance. Individual controls include dummy variables for gender, economics- or business-related degree, year of	norance. Individ	lual controls includ	le dummy variable	s for gender, econo	mics- or business-r	elated degree, year of

Dep Var: 1[Individual vote consistent with	(1)	(2)	(3)	(4)
	(1)	(2)	(0)	(1)
Low cost of information (0.1)	0.095***	0.095***	0.091***	
	(0.030)	(0.030)	(0.027)	
High cost of information (0.4)	0.052^{*}	0.052^{*}	0.066**	
Č ()	(0.028)	(0.028)	(0.026)	
Order	-0.008	-0.008	0.009	
	(0.024)	(0.024)	(0.025)	
$Quadrant = I_Y$	()	0.021	0.028	0.028
• -		(0.036)	(0.036)	(0.037)
Quadrant = L		0.154***	0.167***	0.167**
•		(0.029)	(0.029)	(0.030)
$Quadrant = I_X$		0.035	0.042	0.042
•		(0.036)	(0.035)	(0.036)
Committee inequality		· /	-0.149*	-0.150*
1			(0.079)	(0.081)
Female			-0.066***	
			(0.022)	
Econ/Business programmes			0.025	
/ 10			(0.026)	
Year of studies			-0.006	
			(0.008)	
Risk taking level			0.006	
0			(0.006)	
Number of decision-making bodies			0.041**	
0			(0.018)	
Information strategy			0.039***	
			(0.015)	
Fraction of utility-maximising decisions			0.300***	
, 0			(0.078)	
Round	0.005**	0.005***	0.005***	0.005***
	(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.548***	0.496***	0.122	0.627***
	(0.033)	(0.041)	(0.112)	(0.038)
Individual fixed effects	No	No	No	Yes
Obs	2,880	2,880	2,880	2,880
R^2	0.010	0.026	0.047	0.116

 Table 6:
 Linear estimation of consistency of individual votes with theoretical prediction

 Dep Ver:
 "Individual vote consistent with theory"

Robust s.e. clustered at individual level in parentheses. Low cost and high cost are dummy variables indicating that the cost of information was 0.1 and 0.4, respectively, compared to the default cost of zero. Order is a dummy variable identifying sessions where the state-independent status quo alternative was labeled Option B, instead of Option A. Committee inequality is the maximum Gini coefficient on individual payoffs under the state-dependent alternative. Individual controls include dummy variables for gender, economics- or business-related degree, year of studies, self-assessment of wilingness to take risks (on a 0 to 10 scale), number of decision-making bodies in which the individual had participated, degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), and fraction of utility-maximising decisions when voting between Option A and Option B.

C Supplementary Material for Online Publication

C.1 Generalisations of the Theoretical Model

C.1.1 Imperfect Signals

Suppose the committee cannot perfectly learn the state. Instead, it needs to vote on whether to acquire a binary public signal $\sigma \in \{X, Y\}$. Let $\Pr(\sigma = X \mid \omega = X) = p$ and $\Pr(\sigma = X \mid \omega = Y) = q$, where $p \ge q$. Thus, if signal X arrives, the posterior probability that the state is X increases relative to the prior π ; and if signal Y arrives, it decreases relative to π .

Suppose the committee has voted to acquire information. If they receive signal X, they will believe that the state is X with probability $\frac{\pi p}{\pi p + (1-\pi)q}$. In this case, voter *i*'s expected payoff if the reform is approved is $\frac{\pi p}{\pi p + (1-\pi)q}x_i + \frac{(1-\pi)q}{\pi p + (1-\pi)q}y_i$. Thus, when signal X is received, the reform will be approved if and only if

$$g\left[\frac{\pi p}{\pi p + (1-\pi)q}x + \frac{(1-\pi)q}{\pi p + (1-\pi)q}y\right] = 1$$

or, equivalently, if and only if $g[\pi px + (1 - \pi) qy] = 1$. Similarly, if they receive signal Y, the posterior probability that the state is X will equal $\frac{\pi(1-p)}{\pi(1-p)+(1-\pi)(1-q)}$. Then voter i's expected payoff from the reform equals $\frac{\pi(1-p)}{\pi(1-p)+(1-\pi)(1-q)}x_i + \frac{(1-\pi)(1-q)}{\pi(1-p)+(1-\pi)(1-q)}y_i$. Hence, the reform is adopted if and only if

$$g\left[\frac{\pi\left(1-p\right)}{\pi\left(1-p\right)+\left(1-\pi\right)\left(1-q\right)}x+\frac{\left(1-\pi\right)\left(1-q\right)}{\pi\left(1-p\right)+\left(1-\pi\right)\left(1-q\right)}y\right]=1$$

or, equivalently, if and only if $g[\pi (1-p)x + (1-\pi)(1-q)y] = 1$.

Ex ante, if information is not acquired, voter *i*'s expected payoff if the reform is adopted equals $\pi x_i + (1 - \pi) y_i$. Hence, without information, the committee adopts the reform whenever $g [\pi x + (1 - \pi) y] = 1$. Then the value of ignorance to voter *i* equals:

$$v_{i} = (\pi x_{i} + [1 - \pi] y_{i}) g (\pi x + [1 - \pi] y) - (\pi p x_{i} + [1 - \pi] q y_{i}) g (\pi p x + [1 - \pi] q y) - (\pi [1 - p] x_{i} + [1 - \pi] [1 - q] y_{i}) g (\pi [1 - p] x + [1 - \pi] [1 - q] y)$$

Information will be acquired if and only if g(-v) = 1. We have the following result that is analogous to Lemma 1:

Lemma 2. The committee has a weak preference for ignorance if and only if $g [\pi px + (1 - \pi) qy] = g [\pi (1 - p) x + (1 - \pi) (1 - q) y]$. Furthermore, the committee has a strict preference for ignorance if and only if $g [\pi px + (1 - \pi) qy] = g [\pi (1 - p) x + (1 - \pi) (1 - q) y] \neq g [\pi x + (1 - \pi) y]$.

Proof. Similar to the proof of Lemma 1, with $g(\pi px + [1 - \pi] qy)$ and $g(\pi [1 - p] x + [1 - \pi] [1 - q] y)$ replacing g(x) and g(y), respectively.

In words, the committee will weakly prefer not to acquire information when the collective decision is the same after either of the signals arrives. Furthermore, the committee will strictly prefer not to acquire information when the collective decisions upon receiving the two signals are the same, and both are different from the collective decision made at the initial belief π .

We can now divide voters into groups based on their preferred decisions upon receiving either of the signals, as in Section 3. Let \hat{I}_X and \hat{I}_Y be the sets of voters that, upon receiving a signal, have a positive expected payoff from the reform if and only if the signal is, respectively, X and Y. Let \hat{W} and \hat{L} be the sets of voters that have, respectively, a positive and a negative payoff from the reform after any signal arrives. Then, using the same logic as in Section 3, we can show that the committee will have a weak preference for ignorance if and only if members for whom the preferred decision depends on the realisation of the signal are more divided than those for whom it does not:

Proposition 3. The committee has a weak preference for ignorance if and only if $\left|\#\hat{I}_X - \#\hat{I}_Y\right| \leq \left|\#\hat{W} - \#\hat{L}\right|.$

Proof. Identical to the proof of Proposition 1, with I_X , I_Y , W and L replaced by \hat{I}_X , \hat{I}_Y , \hat{W} and \hat{L} , respectively.

C.1.2 Generic Information Structure

The baseline model assumed that the state space is binary. Consider instead a finite set of states Ω . Each state $j \in \Omega$ occurs with a prior probability p^{j} , which is common knowledge. If the reform is approved, then in state j each voter $i \in I$ receives a payoff x_i^j . Denote by $x^j \equiv (x_1^j, x_2^j, ...)$ a vector of voters' payoffs if the reform is adopted and the state is j. Let \mathcal{P} be a partition of Ω . Denote by S a generic element of \mathcal{P} ; we will refer to S as a *message*. Before voting on the reform, the committee decides whether to acquire information. If they do, they learn the message S that contains the true state.

Suppose that decisions are made by simple majority. If the committee decides against learning, then the decision on the reform is based on the prior. Hence, without information the reform is approved if and only if $g\left[\sum_{j\in\Omega}p^jx^j\right] = 1$. Then if the committee chooses to not to acquire information, voters will, in expectation, receive the payoff vector $\sum_{j\in\Omega}p^jx^jg\left[\sum_{j\in\Omega}p^jx^j\right]$.

Now suppose information is acquired, and the committee receives a message $S \in \mathcal{P}$. Then the posterior probability that the state is j will equal $\frac{p^j}{\Pr(S)}$ if $j \in S$, and zero otherwise, where $\Pr(S) \equiv \sum_{j \in S} p^j$ denotes the prior probability of receiving message S. Then, upon receiving message S, the committee will vote in favour of the reform if and only if $g\left[\sum_{j \in S} \frac{p^j x^j}{\Pr(S)}\right] = 1$. The ex ante expected payoff vector will then equal

$$\sum_{S \in \mathcal{P}} \left(\Pr\left(S\right) g\left[\sum_{j \in S} \frac{p^{j} x^{j}}{\Pr\left(S\right)}\right] \sum_{j \in S} \frac{p^{j} x^{j}}{\Pr\left(S\right)} \right) = \sum_{S \in \mathcal{P}} \left(g\left[\sum_{j \in S} p^{j} x^{j}\right] \sum_{j \in S} p^{j} x^{j} \right)$$

To avoid the trivial case in which every agent is indifferent between acquiring and not acquiring information, we will assume that \mathcal{P} is *non-trivial*. Specifically, assume that there exists an $S \in \mathcal{P}$ such that $g\left[\sum_{j \in S} p^j x^j\right] \neq g\left[\sum_{j \in \Omega} p^j x^j\right]$. In words, there is at least one message that induces a decision different from the one that is made without information. This effectively eliminates the distinction between a strict and a weak preference for ignorance. Then the following result can be derived:

Proposition 4. For any committee *I*, any prior, and any non-trivial \mathcal{P} , the committee will have a preference for ignorance if and only if $g\left[\sum_{j\in M} p^j x^j\right] = g\left[\sum_{j\in \Omega} p^j x^j\right]$, where *M*

is the union of all $S \in \mathcal{P}$ for which $g\left[\sum_{j \in S} p^j x^j\right] \neq g\left[\sum_{j \in \Omega} p^j x^j\right]$.

 $\begin{array}{l} Proof. \text{ The value of ignorance to agent } i \text{ equals } v_i = \sum_{j \in \Omega} p_i^j x_i^j g\left[\sum_{j \in \Omega} p^j x^j\right] - \sum_{S \in \mathcal{P}} \left(\sum_{j \in S} p_i^j x_i^j g\left[\sum_{j \in S} p^j x^j\right]\right) = \\ \sum_{S \in \mathcal{P}_j \in S} \left[p_i^j x_i^j \left(g\left[\sum_{j \in \Omega} p^j x^j\right] - g\left[\sum_{j \in S} p^j x^j\right]\right)\right]. \text{ By the definition of } M, \text{ the expression in the round brackets equals 0 for all } S \text{ that are not part of } M. \text{ For } S \subseteq M, \text{ the expression in the round brackets equals } p_i^j x_i^j \text{ if } g\left[\sum_{j \in \Omega} p^j x^j\right] = 1, \text{ and equals } -p_i^j x_i^j \text{ if } g\left[\sum_{j \in \Omega} p^j x^j\right] = 0. \text{ Thus,} \\ \text{if } g\left[\sum_{j \in \Omega} p^j x^j\right] = 1, \text{ then } g\left(v\right) = 1 \text{ if and only if } g\left[\sum_{S \subseteq M_j \in S} p_i^j x_i^j\right] = g\left[\sum_{j \in M} p_i^j x_i^j\right] = 1. \text{ Similarly, if } g\left[\sum_{j \in \Omega} p^j x^j\right] = 0, \text{ then } g\left(v\right) = 1 \text{ if and only if } g\left[-\sum_{S \subseteq M_j \in S} p_i^j x_i^j\right] = g\left[-\sum_{j \in M} p_i^j x_i^j\right] = 1, \text{ which happens if and only if } g\left[\sum_{j \in M} p_i^j x_i^j\right] = 0. \text{ Hence, } g\left(v\right) = 1 \text{ if and only if } g\left[\sum_{j \in \Omega} p^j x^j\right] = g\left[\sum_{j \in M} p_i^j x_i^j\right] = g\left[\sum_{j \in M} p_i^j x_i^j\right] = 0. \text{ Hence, } g\left(v\right) = 1 \text{ if and only if } g\left[\sum_{j \in M} p_i^j x_i^j\right] = g\left[\sum_{j \in M} p_i^j x_i^j\right] = g\left[\sum_{j \in M} p_i^j x_i^j\right]. \end{array}$

Proposition 4 says the following. Take all messages that induce a decision different from the one made without information. Now suppose the committee learns that one of such messages will be received, without knowing which one. If, given this knowledge, the committee also makes the decision different from the one made without information, then the committee will vote to acquire information.

We can compare this result to the case of the binary state. When Ω is binary and \mathcal{P} is non-trivial, M can include either one state, or both states. The former case implies that $g(x) \neq g(y)$, and also that the condition in Proposition 4 fails. Thus, the committee votes to learn the state. The latter case implies that $g(x) = g(y) \neq g(\pi x + [1 - \pi] y)$, and also that the condition in Proposition 4 is satisfied, so the committee votes against learning.

C.1.3 Supermajority Voting Rules

Suppose instead that the committee makes a positive decision (to acquire information, or to adopt the reform) if and only if the fraction of committee members voting in favour of it is at least $\gamma \in (\frac{1}{2}, 1]$. For a vector z, let $g_{\gamma}(z)$ be a function whose value equals 1 if the fraction of elements of z that are positive is at least γ . Then we can derive the following result:

Lemma 3. The committee has a weak preference for ignorance if $g_{\gamma}(x) = g_{\gamma}(y)$.

Proof. The value of ignorance for member i is $v_i = (\pi x_i + [1 - \pi] y_i) g_\gamma(\pi x + [1 - \pi] y) - \pi x_i g_\gamma(x) - (1 - \pi) y_i g_\gamma(y)$. The committee has a preference for ignorance if and only if $g_\gamma(-v) = 0$. Note that $g_\gamma(z) = 1$ implies that $g_\gamma(-z) = 0$ (but not necessarily vice versa) for any payoff vector $z \in \mathbb{R}^n$ that does not contain zeroes³⁰. Then if $g_\gamma(x) = g_\gamma(y) = g_\gamma(\pi x + [1 - \pi] y)$, then $v_i = 0, \forall i \in I$, so all voters are indifferent. If $g_\gamma(x) = g_\gamma(y) = 1$ and $g_\gamma(\pi x + [1 - \pi] y) = 0$, then $v = -(\pi x + [1 - \pi] y)$, so $g_\gamma(-v) = g_\gamma(\pi x + [1 - \pi] y) = 0$. If $g_\gamma(x) = g_\gamma(y) = 0$ and $g_\gamma(\pi x + [1 - \pi] y) = 1$, then $v = \pi x + [1 - \pi] y$, and since $g_\gamma(v) = 1$, we have $g_\gamma(-v) = 0$.

Hence, under a supermajority rule, the characterisation in Lemma 1 is a sufficient, although not a necessary, condition for the committee to have a collective preference for ignorance. As before, this holds under any prior.

Using this result, we can describe the distributions of preferences that induce a collective preference for ignorance in the following way:

Proposition 5. The committee has a weak preference for ignorance if $\max \{\#W, \#L\} + \min \{\#I_X, \#I_Y\} \ge \gamma$.

Proof. Lemma 3 implies that he committee has a weak collective preference for ignorance if either g(x) = g(y) = 1, or g(x) = g(y) = 0. The former condition says that $\#W + \#I_X \ge \gamma$ and $\#W + \#I_Y \ge \gamma$, which is equivalent to $\#W + \min\{\#I_X, \#I_Y\} \ge \gamma$. The latter condition says that $\#L + \#I_X > 1 - \gamma$ and $\#L + \#I_Y > 1 - \gamma$, which is equivalent to $\#L + \min\{\#I_X, \#I_Y\} > 1 - \gamma$. The latter holds if $\#L + \min\{\#I_X, \#I_Y\} \ge \gamma$.

 $^{^{30}}$ To see why, note that if the fraction of positive elements of z is greater than γ , then the fraction of positive elements of -z is smaller than $1 - \gamma$, which is in turn smaller than γ .

Hence, for the committee to have a collective preference for ignorance, it is sufficient to have $\#W + \min{\{\#I_X, \#I_Y\}} \ge \gamma$ or $\#L + \min{\{\#I_X, \#I_Y\}} \ge \gamma$. This is equivalent to $\max{\{\#W, \#L\}} + \min{\{\#I_X, \#I_Y\}} \ge \gamma$.

This provides a sufficient condition for any committee to vote against acquiring information. Note that when $\gamma = \frac{1}{2}$, this condition implies that $|\#I_X - \#I_Y| \leq |\#W - \#L|$, as the proof of Proposition 1 shows.

C.2 Detailed Sample Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Mean	Min	Max	\mathbf{Sd}	Mean	by inf	fo cost	p-v	value for 1	H_0 :
					Zero	Low	High	(5) = (6)	(6) = (7)	(5) = (7)
Female	0.54	0.00	1.00	0.50	0.48	0.54	0.60	0.545	0.540	0.222
Age	20.56	14.00	36.00	3.12	20.85	19.94	20.88	0.176	0.098	0.975
Socieconomic stratum	3.62	2.00	6.00	0.97	3.62	3.77	3.48	0.439	0.129	0.501
Weekly expenses (USD)	42.87	3.35	622.80	71.69	40.90	55.00	32.72	0.412	0.196	0.262
Academic semester	5.39	1.00	10.00	2.98	5.31	4.96	5.90	0.568	0.131	0.319
Econ/Business undergrad	0.44	0.00	1.00	0.50	0.42	0.52	0.40	0.311	0.222	0.837
Risk taking level	6.53	0.00	10.00	1.75	6.79	6.42	6.40	0.282	0.955	0.269
Information strategy	2.26	1.00	3.00	0.71	2.23	2.33	2.23	0.472	0.453	1.000
Option strategy	2.01	1.00	3.00	0.77	2.44	1.77	1.81	0.000	0.795	0.000
Utility-maximising votes	0.93	0.25	1.00	0.12	0.91	0.94	0.93	0.207	0.585	0.620
Voting experience:										
High school elections	0.91	0.00	1.00	0.29	0.90	0.92	0.92	0.729	1.000	0.729
College elections	0.67	0.00	1.00	0.47	0.69	0.56	0.75	0.209	0.053	0.500
School or college elections	0.93	0.00	1.00	0.26	0.92	0.92	0.96	1.000	0.404	0.404
Local elections	0.67	0.00	1.00	0.47	0.65	0.60	0.77	0.677	0.079	0.180
Parliamentary elections	0.35	0.00	1.00	0.48	0.25	0.31	0.48	0.500	0.096	0.019
Presidential elections	0.53	0.00	1.00	0.50	0.50	0.48	0.60	0.840	0.222	0.309
Voted at least once	0.70	0.00	1.00	0.46	0.69	0.62	0.79	0.524	0.073	0.248
Decision-making body experier	ice:									
High school board	0.54	0.00	1.00	0.50	0.62	0.52	0.48	0.306	0.687	0.153
College board	0.12	0.00	1.00	0.33	0.15	0.10	0.12	0.542	0.752	0.768
Other board	0.04	0.00	1.00	0.20	0.02	0.04	0.06	0.562	0.650	0.311
Number of decision-making bodies	0.71	0.00	2.00	0.61	0.79	0.67	0.67	0.3	1.00	0.314

Table 7: Detailed sample descriptive statistics

Note: Socioeconomic stratum is 1 for poorest and 6 for richest households. Academic semester ranges from 1 to 10. Econ/Business related undergrads includes Economics, International Business Administration and Finance and International Trade students. Risk taking level, following Dohmen et al. (2011), ranges from 0 to 10, where 0 represents "not at all willing to take risks" and 10 means "very willing to take risks". Information strategy and Option strategy represent how strategic individuals were when deciding on information acquisition or on options choice (categories for subjects' responses; 1 represents the least strategic behaviour -i.e. taking into account his own payoffs only; and 3 represents the most strategic behaviour -i.e. taking into account the others' payoffs and their potential choices). Utility-maximising votes is the fraction of utility-maximising decisions when voting between Option A and Option B. Voting experience indicates whether the individual has voted in school, college, local, parliamentary or presidential elections. The last variable shows whether the individual participated in zero, one, or at least two decision-making bodies, including high school, college or other decision-making bodies.

C.3 Experimental Instructions (English Translation)

Instrucciones del experimento

Este es un experimento sobre decisiones grupales en el que deberá participar a lo largo de 22 rondas (2 rondas de práctica y 20 rondas que contarán para sus pagos). En cada ronda usted será asignado aleatoriamente a un grupo de tres (3) participantes presentes en esta sala. Los integrantes del grupo son anónimos y serán reasignados a un nuevo grupo al finalizar cada ronda del experimento.

En cada ronda usted deberá tomar dos decisiones que se detallan más adelante. Sus pagos en este experimento se definirán al final de la actividad con base en sus ganancias agregadas de <u>todas las rondas</u>. Antes de comenzar, tendremos dos rondas de práctica que no afectarán su pago potencial.

Situación General

En cada ronda, todos los integrantes de un grupo deberán elegir entre dos **Opciones** Opción A y Opción B. La elección del grupo en cuanto a las Opciones se definirá con base en la regla de mayoría simple: como los grupos están conformados por tres personas, si al menos dos de ellas escogen la Opción A y la restante la Opción B, la Opción A será la que determine los pagos para TODOS los integrantes del grupo. En cambio, si al menos dos de ellas escogen Opción B y la restante la Opción A, la Opción B será la que determine los pagos para TODOS los integrantes del grupo.

Sus pagos en cada ronda, y los de los otros miembros del grupo, dependerán de que el computador elija uno de dos **Escenarios Posibles**: Azul o Rojo. En cada ronda el computador elegirá uno de estos dos Escenarios (Azul o Rojo) aleatoriamente con igual probabilidad, esto es, igual al 50%, lo que es equivalente a lanzar una moneda. El Escenario Relevante para los pagos será común para todos los miembros de su grupo.

Usted conocerá, en cada ronda, cuánto podría ganar si el Grupo elije la Opción A o la Opción B bajo cualquiera de los dos Escenarios Posibles (Azul o Rojo). También sabrá cuánto ganarían los Otros dos miembros del grupo en cada uno de los casos anteriores. NINGÚN individuo en la sala conoce si el Escenario Relevante para los pagos es el Escenario Azul o Rojo.

Experiment Instructions

This is an experiment on group decisions in which you must participate throughout 22 rounds (2 practice rounds and 20 rounds that count for your payments). In each round you will be randomly assigned to a group of three (3) participants in this room. Group members are anonymous and will be reassigned to a new group at the end of each round of the experiment.

In each round you must make two decisions that are detailed below. Your payments in this experiment will be defined at the end of the activity based on the aggregated earnings of <u>all rounds</u>. Before we begin, we will have two practice rounds that will not affect your potential payoff.

General Setting

In each round, all members of a group must choose between two **Options**: Option A and Option B. The choice of the group regarding the Options will be defined by the simple majority rule: as groups are made up of three people, if at least two of them choose Option A and the remaining participant chooses Option B, Option A will determine the payments for ALL members of the group. However, if at least two of them choose Option B and the remaining participant chooses Option A, Option B will determine the payments for ALL members of the group.

Your payments in each round, and those of the other members of your group, will depend on the computer choosing one of two **Possible Scenarios**: Blue or Red. In each round the computer will randomly select one of these Scenarios (Blue or Red) with equal probability, that is, equal to 50%, which is equivalent to tossing a coin. The Relevant Scenario for payment will be the same for all the members of your group.

You will know, in each round, how much you can earn if the group chooses Option A or Option B under any of the two Possible Scenarios (Blue or Red). You will also know how much would the other two members of your group earn in each of this cases. NOBODY in this room knows if the Relevant Scenario for payment is the Blue or the Red Scenario.

However, in each round, and before the group decides over the Options A or B, each member can choose if she wants the group to Acquire Information on which is the Relevant Scenario for payment in that round at a price of **0.4 ECU**. The choice of the group regarding Information Acquisition will be defined by the simple majority rule. Hence, if at least two members want the group to acquire information to learn which is the Relevant Scenario, all members of that group must pay a price of **0.4 ECU**, and the Relevant Scenario for payments will be known before deciding over Options A or B. But, if at least two of them DO NOT want the group to acquire information to learn which is the Relevant Scenario, the Relevant Scenario will not be known before deciding over Options A or B.

Next we summarize the decisions you must make.

Decisions

1. Information Acquisition:

Your first decision is whether you want the group to acquire information to learn the Relevant Scenario (Blue or Red) in this round, or not. The individual price for learning the Scenario is **0.4 ECU.** We expect you to make your decision in less than 60 seconds; a timer on the screen will indicate the time that is running in each round (see Screen 1 in Appendix).

If at least two group participants decide to Acquire Information so as to know which is the Relevant Scenario, all group members must pay **0.4 ECU** and will learn if the Relevant Scenario is Blue or Red. Otherwise, when most of the group decides not to Acquire Information, there will be no charge and no one will have information on the Relevant Scenario. All members of the group will be informed of the group's decision and the payments each would receive after selecting Options A or B described above.

2. Choice of Alternatives:

In accordance with the above decision, each participant must decide next if she wishes the group to select Option A or Option B:

- **Option A:** If the group chooses this option, your payoffs will be of 10 ECU regardless of the Relevant Scenario. That is, whether the Relevant Scenario is Blue or Red, if most members of the group select Option A, each individual's payment, without discounting the Information Acquisition decision, will be of 10 ECU.
- **Option B:** If the group chooses this option, your payments will depend on the Relevant Scenario randomly selected by the computer. This payoff, without discounting the Information Acquisition decision, could be between 1 ECU and 19 ECU.

We expect you to make your decision in less than 50 seconds; a timer on the screen will indicate the time that is running in each round (see Screens 2 and 3 for the cases when information was acquired and when it was not).

Additional details

Recall that both you and the other two participants of your group have the same information regarding the probability of occurrence of each Possible Scenario (Blue and Red Scenarios are equally likely to occur in each round), and on the payments each participant will receive under both Options (A and B), given both Possible Scenarios (Blue and Red). During the rounds that count for final earnings, payments each individual in the room will receive will be the same for five (5) consecutive rounds, but the payments you observe from your colleagues may change, considering that group composition varies in each round. At the end of each round you will receive feedback on your group's decisions and the earnings for each member (see Screen 4)

Payments from the Activity

In addition to the 10,000 pesos for participating in this activity, at the end of the 22 rounds, the computer will add ALL your earnings from each round to determine your payment; this will be computed depending on the Option (A or B) chosen by the group for each round. If during a particular round the group decided to acquire information on the Relevant Scenario, the price for this information will be deducted from your earnings.

C.4 Experimental Instructions (Original Spanish)

Instrucciones del experimento

Este es un experimento sobre decisiones grupales en el que deberá participar a lo largo de 22 rondas (2 rondas de práctica y 20 rondas que contarán para sus pagos). En cada ronda usted será asignado aleatoriamente a un grupo de tres (3) participantes presentes en esta sala. Los integrantes del grupo son anónimos y serán reasignados a un nuevo grupo al finalizar cada ronda del experimento.

En cada ronda usted deberá tomar dos decisiones que se detallan más adelante. Sus pagos en este experimento se definirán al final de la actividad con base en sus ganancias agregadas de <u>todas las rondas</u>. Antes de comenzar, tendremos dos rondas de práctica que no afectarán su pago potencial.

Situación General

En cada ronda, todos los integrantes de un grupo deberán elegir entre dos **Opciones** Opción A y Opción B. La elección del grupo en cuanto a las Opciones se definirá con base en la regla de mayoría simple: como los grupos están conformados por tres personas, si al menos dos de ellas escogen la Opción A y la restante la Opción B, la Opción A será la que determine los pagos para TODOS los integrantes del grupo. En cambio, si al menos dos de ellas escogen Opción B y la restante la Opción A, la Opción B será la que determine los pagos para TODOS los integrantes del grupo.

Sus pagos en cada ronda, y los de los otros miembros del grupo, dependerán de que el computador elija uno de dos **Escenarios Posibles**: Azul o Rojo. En cada ronda el computador elegirá uno de estos dos Escenarios (Azul o Rojo) aleatoriamente con igual probabilidad, esto es, igual al 50%, lo que es equivalente a lanzar una moneda. El Escenario Relevante para los pagos será común para todos los miembros de su grupo.

Usted conocerá, en cada ronda, cuánto podría ganar si el Grupo elije la Opción A o la Opción B bajo cualquiera de los dos Escenarios Posibles (Azul o Rojo). También sabrá cuánto ganarían los Otros dos miembros del grupo en cada uno de los casos anteriores. NINGÚN individuo en la sala conoce si el Escenario Relevante para los pagos es el Escenario Azul o Rojo. Sin embargo, en cada ronda, y antes de que el grupo decida sobre las Opciones A o B, cada miembro podrá decidir si quiere que el grupo Adquiera Información sobre cuál es el Escenario Relevante para los pagos en esa ronda a un precio de **0.4 UME**. La elección del grupo en cuanto a la Adquisición de Información se definirá con base en la regla de mayoría simple. Por tanto, si al menos dos miembros quieren que el grupo adquiera información para aprender el Escenario Relevante, todos los miembros de ese grupo deberán pagar un precio de **0.4** UME y el Escenario Relevante para sus pagos se conocerá antes de la toma de decisión sobre las Opciones A o B. Si en cambio, al menos dos miembros NO quieren que el grupo adquiera información para aprender el Escenario Relevante NO se conocerá antes de la toma de decision so bre las Opciones NO se conocerá antes de la toma de decision el Escenario Relevante NO se conocerá antes de la toma de decisiones A o B.

A continuación resumimos entonces las decisiones que debe tomar.

Decisiones

1. Adquisición de información:

Su primera decisión consistirá en determinar si desea que el grupo adquiera o no información para aprender el Escenario Relevante (Azul o Rojo) en esa ronda. El precio individual de aprender el Escenario es de **0.4 UME**. Esperamos que tome su decisión en menos de 60 segundos; un cronómetro en la pantalla le indicará el tiempo que va corriendo en cada ronda (ver Pantalla 1 en el Apéndice).

Si al menos dos participantes del grupo deciden adquirir información para saber cuál es el Escenario Relevante, todos los miembros del Grupo deberán pagar **0.4 UME** y aprenderán si el Escenario Relevante es Azul o Rojo. En otro caso, cuando la mayoría del grupo decida no Adquirir Información, no habrá ningún cobro y ninguno tendrá información sobre el Escenario Relevante. Todos los integrantes de su grupo serán informados sobre la decisión del grupo y sobre los pagos que cada uno obtendría de elegir las Opción A o B descritas antes.

2. Elección de alternativas:

De acuerdo con la decisión anterior, cada participante debe decidir a continuación si desea que el grupo elija la Opción A o la Opción B:

- **Opción A:** Si el Grupo elige esta opción, sus pagos dependerán del Escenario Relevante que escoja el computador aleatoriamente. Ese pago, sin descontar la decisión de Adquisición de Información, podrá estar entre 1 UME y 19 UME.
- **Opción B:** Si el Grupo elige esta opción, sus pagos serán de 10 UMEs sin importar el Escenario Relevante. Es decir, independientemente de si el Escenario Relevante es Azul o Rojo, si la mayoría del Grupo elije la Opción B, el pago de cada individuo, sin descontar la decisión de Adquisición de Información, será de 10 UME.

Esperamos que tome su decisión en menos de 50 segundos; un cronómetro en la pantalla le indicará el tiempo que va corriendo en cada ronda. (Ver Pantalla 2 y 3 para casos en que se adquirió información y cuando no)

Detalles adicionales

Recuerde que tanto usted como los demás participantes de su grupo tienen la misma información en relación a la probabilidad con la que ocurre cada Escenario Posible (el Escenario Azul y el Rojo tiene la misma probabilidad de ocurrir en cada ronda) y sobre los pagos que cada participante recibirá en ambas Opciones (A y B), dados los dos Escenarios Posibles (Azul y Rojo). En las rondas que cuentan para las ganancias finales, los pagos que cada uno de los individuos presentes en la sala recibirán en las dos Opciones se repetirán por cinco (5) rondas consecutivas, pero los pagos que observa de sus compañeros pueden cambiar, teniendo en cuenta que la composición de los grupos varía en cada ronda. Al final de cada ronda usted recibirá retroalimentación sobre las decisiones del Grupo y los pagos de cada integrante (ver Pantalla 4).

Pagos de la Actividad

Además de los 10.000 pesos por participar en la actividad, al final de las rondas el computador sumará TODAS sus ganancias de las rondas para determinar sus pagos, estos se calcularán según la Opción (A o B) que haya elegido el grupo en cada ronda. Si una ronda el grupo decidió adquirir información sobre el Escenario Relevante, el precio de esta información será descontado de sus pagos.

Preguntas

Pregunta 1: ¿Mi pago será definido por la ronda en la que tenga el mejor resultado?

Respuesta: No. El computador agregará todas las ganancias recibidas en las rondas y descontará el precio de la información adquirida en las rondas donde el grupo haya decidido adquirir información. Las dos rondas iniciales de práctica serán excluidas. Este resultado agregado será el que determine cuál será su pago el pesos colombianos al finalizar el experimento.

Pregunta 2: ¿El pago por adquirir información depende únicamente de mi decisión sobre si deseo o no esa información?

Respuesta: Aunque las decisiones en este juego son individuales, las elecciones dependen de lo que la mayoría del grupo elija. Así, aunque usted no desee pagar para que el Escenario Relevante le sea revelado, si los otros dos participantes de su grupo así lo eligen, los tres participantes deberán asumir el costo de acceder a esa información.

De forma similar, la Opción (A o B) elegida en la segunda etapa de decisión será determinada por lo que dicte la mayoría simple de los participantes del grupo.

Pregunta 3: ¿Mi pago será siempre más alto en la Opción A que en la Opción B?

Respuesta: Su pago dependerá de las decisiones de su grupo sobre <u>pagar o no</u> por saber cuál es el Escenario Relevante, de su elección sobre cuál opción (A o B) prefiere y de cuál sea el Escenario Relevante. Según esto, sus pagos en la Opción A pueden ser mayores o menores a los que le ofrece la Opción B (10 UME), así:

	NO pago por	información	Pago por i	nformación
	Azul	Rojo	Azul	Rojo
Opción A	5	11	4.6 (=5-0.4)	10.6 (=11-0.4)
Opción B	10	10	9.6 (=10-0.4)	9.6 (=10-0.4)

Si sus pagos en la opción A son de 5 si el Escenario Relevante es el Azul, y de 11 si el Escenario Relevante es el Rojo, y el precio de la señal es de 0.4 UME, sus pagos serán:

Pregunta 4: ¿Mi grupo y mis pagos se repetirán por 5 rondas consecutivas?

Respuesta: No. Los grupos serán reasignados en cada ronda. Lo que será igual durante cinco rondas consecutivas serán sus pagos en la Opción A y B para ambos Escenarios Posibles.

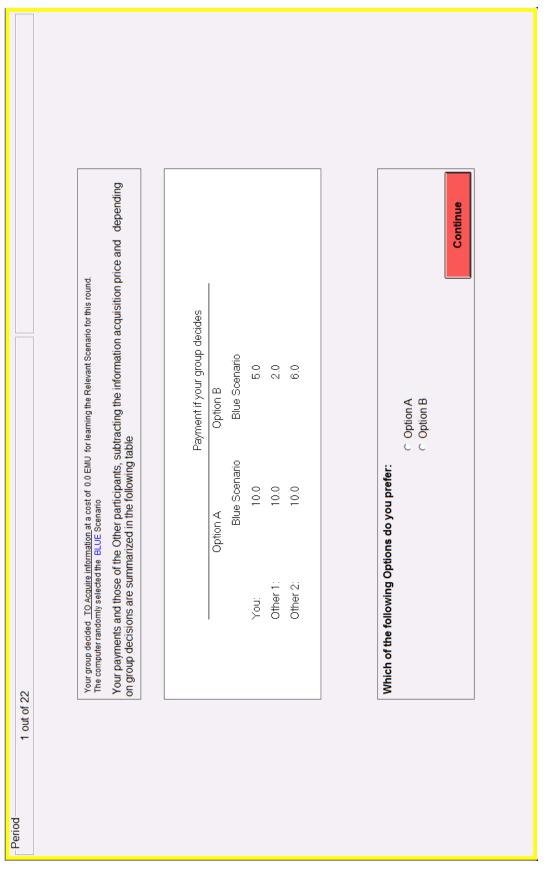
Así, si sus pagos de la Opción A son de 5 si el Escenario Relevante es el Rojo, y de 11 si el Escenario Relevante es el Azul, estos mismos valores se repetirán por cinco rondas consecutivas.

5

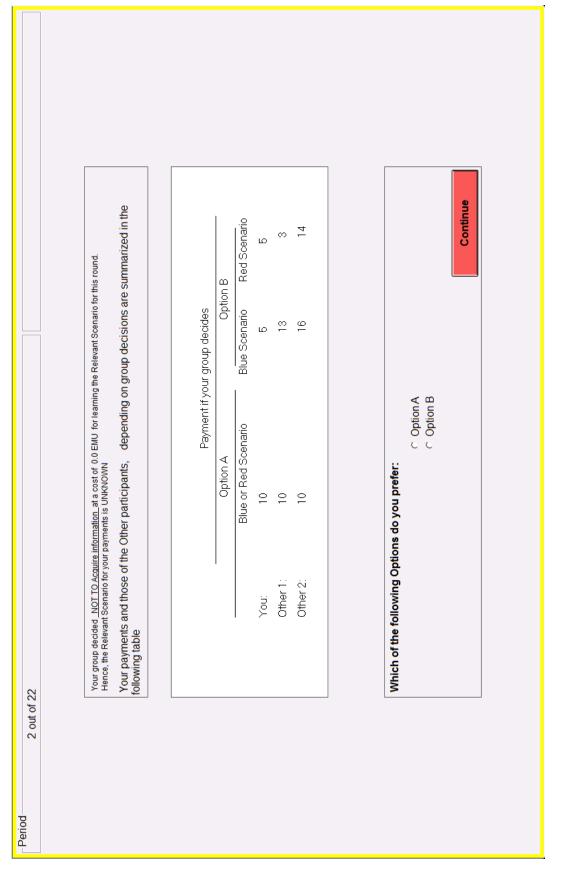


	disions, are summarized in the		8	Red Scenario	Ø	17	ω		dividual price of 0.0		Continue	
	on and depending on group Dec	Payment if your Group decides	Option B	Blue Scenario	13	13	18		Relevant state at an in			
	Now you will have to decide whether you wish to acquire information. Your payments and those of the Other participants, without information acquisition and depending on group Decisions, are summarized in the following table. The Relevant Scenario for your payments this round is: <u>Unknown</u> Remember it can be Blue or Red with the same probability	Payment	Option A	Blue or Red Scenario	10	10	10		Do you want the group to acquire information to learn the Relevant state at an individual price of 0.0 EMU	C Yes		
	ow you will have to decide whether yo ur payments and those of the Other p owing table. e Relevant Scenario for your payment member it can be Blue or Red with				You:	Other 1:	Other 2:		o you want the group to ac MU			
Tellou 1 out of 22	∠ \$ 2 € ¥											

Figure 4: Information acquisition vote screen



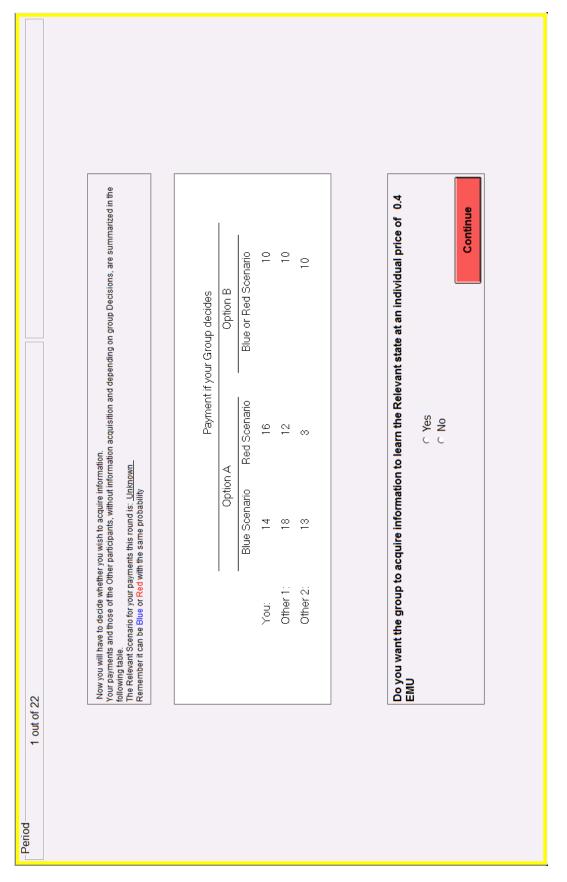






Your group's decisions on Information Acquisition and Preferred Option for this round, were the following Payment ð 17.0 8.0 3.0 The computer randomly selected the RED Scenario Preferred Option Option B Option B Option A Option B Please press OK to continue Info Acquisition Yes Yes Yes ٩ Participants Other 2 Other 1 Group You 1 out of 22 -Period-

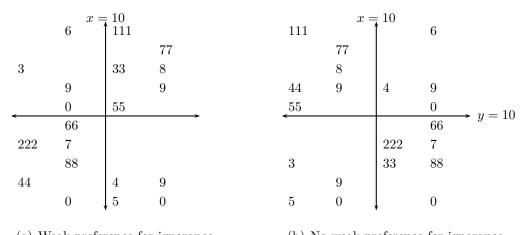
Figure 7: Feedback at the end of each period





C.6 Committee Formation in the Experiment

There are twenty distinct ways of anonymously allocating three committee members into four quadrants. They are presented in Figure 9. Under ten of these distributions, shown in panel (a), the condition $|\#I_X - \#I_Y| \leq |\#W - \#L|$ holds, while in the other ten, shown in panel (b), it fails to hold. Each allocation is marked by a set of three identical digits from 0 to 9. Each digit represents the location of one of the committee members. For example, allocation 0 in panel (a) consists of one sure loser, and one independent voter of each kind. The theory predicts that under allocations in panel (a) committees will vote for ignorance, while under allocations in panel (b) they will vote for information. The difference between these two cases constitutes the main experimental treatment.



(a) Weak preference for ignorance (b) No weak preference for ignorance

Figure 9: Possible allocations of committee members across the four quadrants.

Figure 10 shows committee layouts that individuals faced over 5 consecutive rounds (r = 1, ..., 5) if they belonged to a given quadrant. Each oval, square, and triangle represents a set of, respectively, three, two, and one subject. Shapes connected with a line represent a single three-member experimental committee. Committees are labeled with a number and a letter; these labels match those used in Figure 9. For instance, suppose that a subject was allocated to quadrant W in the first round and randomly given state-dependent payoffs from the set depicted in Figure 2. Assume further that in the first round she belonged to committee 1a (and thus faced ignorance treatment). In

the next round, she kept her state-dependent payoffs, and could be randomly allocated to committee 3a or committee 4b. Her state-dependent payoffs remained unchanged over five consecutive rounds. In round 6 she was allocated to quadrant I_Y , a new pair of state-dependent payoffs (which she would again retain over five consecutive rounds) was randomly drawn for her, and she was assigned to committee 1b. Over the course of the session, each subject spent five rounds in each of the four quadrants.

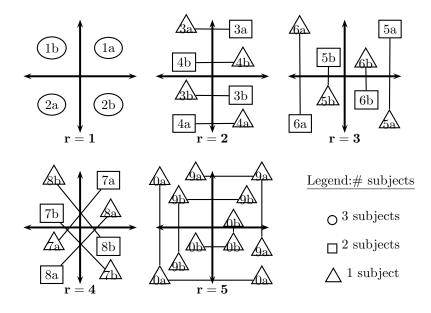


Figure 10: Structure of committees across rounds.

From this figure one can see that over the course of a session, each subject faced each of the 20 possible committee configurations shown in Figure 9. Note that half of all subjects faced ignorance treatment and the other half did not. This design also allows to control for order effects or anchoring effects, given that there was always the same proportion of subjects starting in different quadrants. Note also that committees were formed from a pool of 12 subjects. In each session, we had 24 subjects, split into two pools.

C.7 Nonlinear estimation

ole 8: Marginal effects from a logistic regression of committee information acquisition decision	sion of co	mmittee	informati	ion acquis	sition decis
Dep Var: 1[Committee voted to acquire information]	(1)	(2)	(3)	(4)	(5)
Ignorance treatment	-0.292***	-0.295***	-0.312^{***}	-0.318^{***}	-0.316^{***}
)	(0.036)	(0.036)	(0.042)	(0.039)	(0.039)
Low cost of information (0.1)		-0.272***		-0.268***	-0.268***
		(0.046)	(0.046)	(0.039)	(0.039)
High cost of information (0.4)		-0.391^{***}	Ŧ	-0.366***	-0.365^{***}
		(0.062)	(0.062)	(0.070)	(0.068)
Ignorance treatment×Low cost of information			-0.094	-0.094	-0.094
			(0.114)	(0.108)	(0.108)
Ignorance treatment×High cost of information			0.056	0.056	0.056
			(0.081)	(0.079)	(0.080)
Order		0.062	0.062		
		(0.049)	(0.049)		
Round		-0.002	-0.002	-0.000	
		(0.004)	(0.004)	(0.004)	
Committee controls	N_{O}	N_{O}	No	\mathbf{Yes}	\mathbf{Yes}
Round fixed effects	No	N_{O}	No	N_{O}	\mathbf{Yes}
Observations	960	096	096	096	096
$Pseudo - R^2$	0.073	0.167	0.169	0.199	0.219
Log pseudolikelihood	-611.963	-549.904	-548.989	-528.593	-515.975
Note: Marginal effects from a logit specification, for factor variables they are discrete changes from base level. The interaction effect is computed as	re discrete chang	ges from base le	vel. The interact	ion effect is com	puted as
the effect of one variable changing from its base level when another variable changes from its base level as well. Robust standard errors clustered at	e changes from i	ts base level as	well. Robust sta	ndard errors clus	stered at
pool level in parentheses. Ignorance treatment is a dummy variable that equals one for observations where the theory predicts a collective preference	uals one for obs	ervations where	the theory predi	icts a collective _I	preference
for ignorance. Low cost and high cost are dummy variables indicating that the cost of information was 0.1 and 0.4, respectively, compared to the	the cost of infor	mation was 0.1	and 0.4, respect	ively, compared	to the
default cost of zero. Order is a dummy variable identifying sessions where the state-independent status quo alternative was labeled Option B, instead	the state-indeper	ndent status que	o alternative was	labeled Option	B, instead
of Option A. Committee controls include a measure of committee inequality (maximum Gini coefficient on individual payoffs under the	y (maximum Gin	ii coefficient on	individual payof	fs under the	

International Business Administration and Finance and International Trade students), average year of studies, average self-assessment of wilingness to take risks (on a 0 to 10 scale), average number of decision-making bodies in which committee members have participated, average degree of strategic

behaviour based on self-assessment (on a 1 to 3 scale), and average fraction of utility-maximising decisions when voting between Option A and

Option B.

state-dependent alternative), share of female members, share of students in economics- and business- related programmes (including Economics,

Table 8: Marginal effects from a logistic regression of committee information acquisition decision

Table 9: Marginal effects from a logistic regression of group information acquisition decision under symmetric	n of groul	p informat	tion acq	uisition	decision	under symmetric
and asymmetric priors						
Dep Var: 1[Committee voted to acquire information]	(1)	(2) (2)	(3)	(4)	(5)	(9)

Ignorance treatment	-0.234***	-0.238***	-0.244***	-0.248***	-0.246^{***}	-0.246***
	(0.034)	(0.036)	(0.036)	(0.033)	(0.035)	(0.033)
High cost of information (0.4)		-0.450***	-0.450***	-0.416^{***}	-0.412^{***}	-0.412^{***}
		(0.068)	(0.070)	(0.076)	(0.074)	(0.074)
Asymmetric prior		-0.019	-0.019	-0.019	-0.014	-0.014
		(0.068)	(0.070)	(0.079)	(0.076)	(0.076)
Ignorance treatment×High cost of information			0.038	0.038	0.038	0.038
			(0.072)	(0.067)	(0.068)	(0.064)
Ignorance treatment \times Asymmetric prior			-0.075	-0.075	-0.075	-0.075
			(0.072)	(0.067)	(0.068)	(0.064)
High cost×Asymmetric prior				0.088	0.088	0.088
				(0.136)	(0.133)	(0.133)
Ignorance treatment ×High cost×Asymmetric prior						0.100
						(0.129)
Round		-0.010^{***}	-0.010^{**}	-0.008**		
		(0.003)	(0.003)	(0.003)		
Committee controls	N_{O}	No	No	\mathbf{Yes}	Y_{es}	Y_{es}
Round fixed effects	No	N_{O}	N_{O}	N_{O}	Yes	$\mathbf{Y}_{\mathbf{es}}$
Obs	640	640	640	640	640	640
$Pseudo - R^2$	0.043	0.219	0.221	0.238	0.255	0.256
Log pseudolikelihood	-424.409	-346.501	-345.722	-338.227	-330.605	-330.201

Note: Marginal effects from a logit specification, for factor variables they are discrete changes from base level. The interaction effect is computed as the effect of one

variable changing from its base level when another variable changes from its base level as well. Robust standard errors clustered at pool level in parentheses. Sample is state-dependent alternative), share of female members, share of students in economics- and business- related programmes (including Economics, International Business 0.75, compared to sessions where it equalled 0.5. Committee controls include a measure of payoff inequality (maximum Gini coefficient on individual payoffs under the Administration and Finance and International Trade students), average year of studies, average self-assessment of wilingness to take risks (on a 0 to 10 scale), average 0.4, compared to the default cost of zero. Asymmetric prior is a dummy variable identifying the sessions where the prior probability of Blue state being zero equalled number of decision-making bodies in which committee members have participated, average degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), equals one for observations where the theory predicts a collective preference for ignorance. High cost is a dummy variable indicating that the cost of information was restricted to sessions where the state-independent status quo alternative was labeled Option B, instead of Option A. Ignorance treatment is a dummy variable that and the average fraction of utility-maximising decisions when voting between Option A and Option B.

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	(T)	(7)	(0)	(1)		(-)
$\mathbb{1}[v_i < 0]$	0.277^{***}	0.129^{***}	0.136^{***}	0.108^{***}	0.109^{***}	0.102^{***}
(LU)	(0.021)	(0.024)	(0.027)	(0.030)	(0.032)	(0.028)
LOW COSU OI IIIIOTIIIAUIOII (U.1)		(0.040)	(0.040)	(0.039)	-0.199	
High cost of information (0.4)		-0.295^{***}	-0.295^{***}	-0.282^{***}	-0.282***	
$\mathbb{1}[v_i < 0] \times \text{Low cost of information}$		(11+0.0)	0.109	0.109^{*}	0.109^{*}	
$\mathbb{1}[v_i < 0] \times \text{High cost of information}$			(0.062) -0.021	(0.061) -0.021	(0.061) -0.021	
			(0.057)	(0.057)	(0.057)	
Order		0.041 (0.032)	0.041 (0.032)	0.044 (0.036)	0.044 (0.036)	
Round		-0.003	-0.003	-0.001	-0.001	
		(0.002)	(0.002)	(0.002)	(0.002)	
Committee inequality				-0.325***	-0.323***	-0.182^{*}
Welfare effect of information				(0.083) 0.010^{**}	(0.084) 0.010^{**}	(0.097)
				(0.005)	(0.004)	(0.005)
$ v_i $					(0.008)	0.007)
Individual-level variables					(2000)	(
Quadrant = I_Y		0.162^{***}	0.162^{***}	0.177^{***}	0.177^{***}	0.187^{***}
		(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Quadrant = L		-0.177^{***}	-0.177^{***}	-0.150***	-0.150***	-0.174^{***}
Onadrant = I_{V}		(0.031) 0.184^{***}	(0.032) 0.185***	(0.032) 0.201***	(0.032) 0.201***	(0.033) 0.212***
		(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
Individual controls	N_{O}	No	No	Yes	Yes	No
Round fixed effects	N_{O}	No	N_{O}	No	N_{O}	Yes
Individual fixed effects	No	No	No	No	No	Yes
Observations	2,880	2,880	2,880	2,880	2,880	2,880
$Pseudo - R^2$	0.062	0.164	0.166	0.180	0.180	0.308
Log pseudolikelihood	-1861.588	-1657.992	-1655.216	-1628.057	-1628.037	-1302.00

Note: Marginal effects from a logit specification, for factor variables they are discrete changes from base level. The interaction effect is computed as the effect of one variable changing from its base level when another variable changes from its base level as well. Robust s.e. clustered at individual level in parentheses. $\mathbb{1}[v_i < 0]$ is a dummy indicating when theory predicts individuals should vote for acquiring information. Low cost and high cost are dummy variables indicating that the cost of include dummy variables for gender, economics- or business-related degree, year of studies, self-assessment of willingness to take risks (on a 0 to 10 scale), number of information was 0.1 and 0.4, respectively, compared to the default cost of zero. Order is a dummy variable identifying sessions where the state-independent status quo alternative was labeled Option B, instead of Option A. Committee inequality is the maximum Gini coefficient on individual payoffs under the state-dependent alternative. The next variable is the effect of information on utilitarian welfare function. $|v_i|$ is the absolute value of the value of ignorance. Individual controls decision-making bodies in which the individual had participated, degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), and fraction of utility-maximising decisions when voting between Option A and Option B.

Dep Var: $\mathbbm{1}[\text{Individual vote consistent w}]$				
	(1)	(2)	(3)	(4)
Low cost of information (0.1)	0.095***	0.095***	0.092***	
	(0.030)	(0.030)	(0.028)	
High cost of information (0.4)	0.052^{*}	0.052^{*}	0.068**	
	(0.028)	(0.028)	(0.026)	
Order	-0.008	-0.008	0.009	
	(0.024)	(0.024)	(0.025)	
$Quadrant = I_Y$	· · · ·	0.021	0.028	0.028
		(0.036)	(0.036)	(0.037)
Quadrant = L		0.154***	0.166***	0.165***
-		(0.029)	(0.029)	(0.029)
$Quadrant = I_X$		0.035	0.043	0.042
		(0.036)	(0.035)	(0.036)
Committee inequality		· · · ·	-0.149*	-0.147*
			(0.079)	(0.079)
Female			-0.067***	· /
			(0.022)	
Econ/Business programmes			0.026	
			(0.026)	
Year of studies			-0.006	
			(0.008)	
Risk taking level			0.006	
			(0.006)	
Number of decision-making bodies			0.043**	
			(0.019)	
Information strategy			0.038***	
			(0.014)	
Fraction of utility-maximising decisions			0.289***	
			(0.074)	
Round	0.005^{**}	0.005^{***}	0.005***	0.005***
	(0.002)	(0.002)	(0.002)	(0.002)
Individual fixed effects	No	No	No	Yes
Obs	2,880	2,880	2,880	$2,\!880$
$Pseudo - R^2$	0.008	0.020	0.038	0.094
Log pseudolikelihood	-1848.669	-1824.773	-1792.486	-1679.836

Table 11: Marginal effects from a logistic regression of consistency of individual votes with theoretical prediction

Marginal effects from a logit specification, for factor variables they are discrete changes from base level. The interaction effect is computed as the effect of one variable changing from its base level when another variable changes from its base level as well. Robust standard errors clustered at individual level in parentheses. Low cost and high cost are dummy variables indicating that the cost of information was 0.1 and 0.4, respectively, compared to the default cost of zero. Order is a dummy variable identifying sessions where the state-independent status quo alternative was labeled Option B, instead of Option A. Committee inequality is the maximum Gini coefficient on individual payoffs under the state-dependent alternative. Individual controls include dummy variables for gender, economics- or business-related degree, year of studies, self-assessment of wilingness to take risks (on a 0 to 10 scale), number of decision-making bodies in which the individual had participated, degree of strategic behaviour based on self-assessment (on a 1 to 3 scale), and fraction of utility-maximising decisions when voting between Option A and Option B.