Veto Power in Standing Committees: An Experimental Study*

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Abstract

Many voting bodies grant one or several of their members a *veto right*, that is, the right to block decisions even when a proposal has secured the necessary majority. The existence of veto power raises two concerns: first, it increases the possibility of status quo inertia; second, although it only grants the power to block decisions, it could allow veto members to impose their ideal decision on the rest of the committee. While these concerns have been investigated from the perspective of *ad hoc committees*, which bargain on a single policy, most committees are *standing* and bargain over a sequence of policies while an endogenous status quo is in place. In this paper, I present the results of a laboratory experiment designed to study the consequences of veto power in these committees. I show that (i) non-veto players are substantially less willing to support the expropriation of other non-veto players when dynamic incentives are strong and (ii) veto power substantially reduces proposal power; nonetheless, (iii) the allocation to the veto player displays a ratchet effect, and (iv) committees with a veto player have more status quo inertia and inequality of outcomes than committees without a veto player. I relate these results to the theoretical literature on the impact of veto power in standing committees.

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1 Introduction

Many important voting bodies endow one or several of their members with *veto power*, that is, the right to block proposals to reform current policies. Examples include the permanent members of the United Nations Security Council, the U.S. President's ability to veto laws passed by the U.S. Congress, or the role of the U.S. in the International Monetary Fund and the World Bank governance bodies. The existence of veto power raises two concerns. First, the ability to block reforms increases the possibility of legislative stalemate, or status quo inertia. Second, the right to veto could grant its holders excessive leverage: although *de jure* it only grants the power to block decisions, it could *de facto* allow a minority of committee members to impose their ideal decision on the other members.

Laboratory experiments have investigated these concerns from the static perspective of an *ad hoc* committee: committee members come to the table with an exogenous status quo policy, bargain over a single reform, and disband when an agreement is reached. This is not a realistic description of how bargaining works in many real world institutions. In fact, committees are often *standing*: committee members bargain over a sequence of reforms and the status quo is *endogenous*, in the sense that a previously agreed-upon policy remains in effect until a new agreement is reached. This makes the policy-making process an intrinsically *dynamic* game that cannot be studied as a static competition among different constituencies, or even as a sequence of independent competitions, as in a repeated game. In choosing a policy proposal and coalition partners, a policy-maker must not only consider the direct effect of the agreement but also the indirect effect of the agreement on future policy decisions.

The experiments in this paper include this dynamic considerations. In particular, I study the behavior of laboratory committees in a simple dynamic bargaining game with an endogenous status quo. In each period of an infinite horizon, one of three committee members is randomly selected to make a proposal for the allocation of a fixed budget. The proposed allocation is implemented if it passes the voting stage. Otherwise, the budget is allocated according to the status quo. The status quo policy, thus, evolves endogenously.

My experimental manipulations are legislators' degree of patience, that is, the strength of dynamic incentives; and the voting rule, that is, whether one committee member holds veto power or a simple majority suffices for passage.[1] I compare committees with high patience and committees with low patience, in the presence of a veto player. I also compare committees with and without a veto player, keeping the degree of patience fixed.

I set to answer the following questions: Does introducing veto power affect the distribution of resources? Does it increase the degree of policy inertia and inequality in a committee? Are members with formal veto power able to exploit repeated interaction within a standing committee to gradually expropriate other committee members? Do players without formal veto power anticipate this and combine their influence to prevent expropriation? To what extent do these answers depend on the strength of dynamic incentives, that is, the time horizon or the degree of patience of committee members?

I find that non-veto players are substantially less willing to support the expropriation of other non-veto players when dynamic incentives are stronger and that the duration of coalitions giving a substantial amount to all committee members is greater in more patient committees and in committees with veto players. As a consequence, veto power substantially reduces proposal power. Nonetheless, the allocation to the veto player displays a ratchet effect and allocations which give most resources to the veto player are an absorbing state. Moreover, committees with a veto player display more status quo inertia and inequality of outcomes than committees without a veto player.

This paper contributes to the literature on laboratory experiments testing models of legislative bargaining (McKelvey 1991, Frechette et al. 2003, Frechette et al. 2005a,b,c, Diermeier and Morton 2005, Diermeier and Gailmard 2006, Frechette 2009, Drouvelis et al. 2010, Miller and Vanberg 2013, 2015, Agranov and Tergiman 2014, Baranski and Kagel 2015, Tergiman 2015, Nunnari and Zapal 2016, Cook and Woon 2017, Fréchette and Vespa 2017). In particular, Wilson and Herzberg (1987), Haney et al. (1992), Kagel et al. (2010), and

[1] For this manipulation, I complement the data I collected with data from Battaglini and Palfrey (2012).

Agranov and Tergiman (2019) provide experimental evidence on the consequences of veto power in *ad hoc committees*. All this work focuses on static environments where resources are allocated only once.[2] More closely related to this paper, the experiments presented in Battaglini and Palfrey (2012), Battaglini et al. (2012), Agranov et al. (2016b), Baron et al. (2017), Agranov et al. (2016a), and Battaglini et al. (Forthcoming) investigate models of legislative bargaining with *standing committees*, where resources are allocated repeatedly. As in the current paper, in Battaglini and Palfrey (2012) and Baron et al. (2017), the status quo policy evolves endogenously: if an agreement is not reached, resources are allocated as in the previous period.[3,4] None of these papers considers the effect of veto power.[5]

2 Dynamic Bargaining Game with Veto Power

Three *committee members* repeatedly bargain over a *policy*, $\mathbf{x}^t$, for each period of an infinite horizon, $t = \{1, 2, \ldots\}$. One of the three committee members is endowed with the power to veto any proposed outcome in every period. I label the two non-veto players as Committee Member 1 and Committee Member 2, while the persistent veto player is Committee Member 3. The possible policies in each period are all possible allocations of 60 tokens among the three committee members. A *feasible allocation* is, thus, a triple

[2] Less related to the private value environment of this paper, Guarnaschelli et al. (2000), Goeree and Yariv (2011), Bouton et al. (2017), and Elbittar et al. (Forthcoming) study the consequences of veto power for the aggregation of information in common value environments.

[3] In Battaglini et al. (2012), Agranov et al. (2016b), Agranov et al. (2016a), and Battaglini et al. (Forthcoming) the status quo policy is exogenous and time-invariant. The linkage between periods is represented by the stock of a durable public good the committee can invest in (Battaglini et al. 2012, Agranov et al. 2016b), the allocation of proposal power (Agranov et al. 2016a), or the available budget (Battaglini et al. Forthcoming).

[4] One of the treatments in Battaglini and Palfrey (2012) uses the same experimental design as one of the treatments in this paper, the crucial difference being that decisions are made using simple majority and no committee member has the power to oppose. In Section 5, I use data from this treatment as benchmark to assess the causal impact of veto power on policy outcomes. See Section 4 for a detailed account of the difference between the experimental design in Battaglini and Palfrey (2012), Baron et al. (2017) and the experimental design adopted in this paper.

[5] The sole exception is Battaglini et al. (2012) who consider a treatment with unanimous voting. Contrary to the divide-the-dollar game with endogenous status quo studied in this paper, in Battaglini et al. (2012), resources can be allocated both to private transfers and to investment in a durable public good; and the status quo policy does not depend on past decisions but is always zero investment in the public good and an even share of the budget to each committee member's private consumption.

$\mathbf{x}^t = (x_1^t, x_2^t, x_3^t)$, with $x_i^t \geq 0$ for each committee member $i = \{1, 2, 3\}$ and $\sum_{i=1}^3 x_i^t = 60$.

The committee makes decisions using the following bargaining protocol: at the beginning of each period, one committee member is randomly selected to propose a new feasible allocation, $\mathbf{z}$. Each committee member has the same probability of being recognized as policy proposer, that is, $\frac{1}{3}$. This proposal is voted up or down, without amendments, by the committee. A proposal passes if it gets the support of the veto player and at least one other committee member. If a proposal passes, $\mathbf{x}^t = \mathbf{z}$ is the implemented policy at t. If a proposal is rejected, the policy implemented is the same as it was in the previous period, $\mathbf{x}^t = \mathbf{x}^{t-1}$. Thus, the previous period's decision, $\mathbf{x}^{t-1}$, serves as the *status quo policy* in period t. The initial status quo policy, $\mathbf{x}^0$, is exogenously specified.

Committee member i derives stage utility $u(x_i^t)$ from the implemented policy $\mathbf{x}^t$. Committee members discount the future with a common discount factor, $\delta \in [0, 1)$, and their utility in the game is given by the discounted sum of stage utilities.

3 Theoretical Predictions

A recent theoretical literature in economics and political science has investigated legislative policy making with an endogenous status quo and farsighted legislators (Baron 1996, Kalandrakis 2004, 2010, Penn 2009, Diermeier and Fong 2011, Bowen and Zahran 2012, Richter 2014, Anesi and Seidmann 2015, Dziuda and Loeper 2016). In particular, three papers in this literature explore the consequences of veto power: Diermeier et al. (2017), Sethi and Verriest (2017), and Nunnari (2018).[6] These theories characterize different classes

[6] Duggan et al. (2008) model the specific institutional details of the American presidential veto and limit their analysis to numerical computations. Anesi and Duggan (2017) focus on the case where the set of feasible allocations is finite and no pair of available agreements gives the same stage utility to the same committee member. They show that, if there is a veto player with positive recognition probability and committee members are sufficiently patient, then starting from any given status quo policy, there is a unique absorbing point which the equilibrium process transitions to. Whether the experimental setup meets the assumptions for this results depends on what one assumes on the committee members' stage utilities. Given the set of feasible allocations in the experiment is 'continuous' (even restricting allocations to integer amounts, there are 1891 feasible allocations), this is unlikely to be the case: for example, if stage utilities only depend on the allocation to oneself, there are many available allocations which give the same stage utility to the same committee member. Moreover, the results in Anesi and Duggan (2017) have limited ability to inform predictions on experimental outcomes as they do not characterize the absorbing point (which can be different

of Markov Perfect Equilibria (MPE) and make various assumptions about the space of feasible allocations, initial status quo policies, discount factors, and proposal power.[7] An MPE is a subgame perfect equilibrium in which strategies depend only on payoff-relevant effects of past behavior (Maskin and Tirole 2001). In an MPE of this game, committee members behave identically in different periods with the same status quo policy, even if that status quo policy arises from different histories.

Diermeier et al. (2017) focus on the case where the set of feasible allocations is discrete and legislators are sufficiently patient.[8] They show that there exists an MPE of the game where patient non-veto players combine their influence to prevent expropriation by veto players. Sethi and Verriest (2017) show that an MPE with partial expropriation by the veto player exists also with a continuous policy space. At the same time, this MPE exists only as long as legislators are sufficiently patient, the recognition probability of the veto player is sufficiently large, and the initial status quo gives a sufficient amount to all non-veto players.[9] Nunnari (2018) shows that, when the set of alternatives is continuous, mutual protection is not an equilibrium and veto players are eventually able to fully expropriate non-veto players regardless of their patience. In particular, Nunnari (2018) characterizes an MPE where the veto player is able to gradually converge to his ideal policy, irrespective of the legislators' patience and the initial division of resources but it takes an infinite number of periods to converge to this long run outcome.[10]

Regardless of whether these theories predict full or partial expropriation of non-veto

for different initial status quo policies) or the patience cutoff.

[7]These theories share the assumption that committee members' stage utilities are linear and only depend on the allocation to themselves in that period.

[8]In particular, they assume $\delta > 1 - \frac{1}{b+2}$ where b is the number of indivisible objects committee members bargain over. In our experimental setup, if allocations are constrained to be integer amounts, $b = 60$ and, thus, this condition reduces to $\delta > 1 - \frac{1}{62} = \frac{61}{62} \approx 0.98$, which is not satisfied in any experimental treatment.

[9]With homogeneous proposal power (as in all experimental treatments) and $\delta < 0.68$, this MPE does not exist for any initial status quo policy. With $\delta = 0.75$ (as in one of the experimental treatments), this MPE exists as long as the initial status quo assigns at least 27 out of 60 tokens to each non-veto player.

[10]This MPE exists for any discount factor and any initial divisions of the resources. In particular, it exists for both the experimental treatments with a veto player considered in this paper.

players, and of whether their finer assumptions make them directly applicable to the setup of the experiment, they share a common intuition: in standing committees, the shadow of the future affects legislators' bargaining behavior and the allocation of resources. In particular, forward-looking non-veto players do not only care about increasing their own allocation (which is the sole concern of ad hoc committees' members) but also care about preventing the accumulation of resources by the veto player (for example, at the expense of the allocation to other non-veto players). This dynamic incentive is stronger for more patient legislators.

In the MPE characterized in Nunnari (2018), "*non-veto players are not indifferent among any proposal offering them the same allocation, but care about the whole distribution of resources. For this to happen, it is not necessary to invoke altruism or envy: selfish dynamic considerations suffice. When evaluating a proposal which increases the veto player's share, non-veto players take into account not only their immediate benefit but also the reduced set of reforms that will be politically feasible in the future and demand more than their current status quo share to support it. This premium is always positive and, thus, some benefits accrue to non-veto players in all periods of the game. The speed of convergence to the veto player's ideal outcome is decreasing in the discount factor of the committee, as the premium demanded by non-veto legislators increases in their patience*" (Nunnari 2018, page 3). Similarly, in the MPE characterized in Diermeier et al. (2017), sufficiently patient "*players without formal veto power anticipate that the expropriation of other similar players will ultimately hurt them and thus combine their influence to prevent redistributions*" (Diermeier, Egorov and Sonin 2017, page 851).

These theoretical results suggest that a dynamic perspective may lead to a more subtle understanding of the effects of veto power on policy outcomes. In the remainder of the paper, I assess the empirical validity of these theoretical argument as well as the casual effect of introducing veto players with the use of controlled laboratory experiments, which have some important advantages over field data when studying a highly structured dynamic environment such as the one in this paper (Falk and Heckman 2009).

4 Experimental Design

The experiments were conducted at the Rady Behavioral Laboratory between November 2012 and February 2013. Subjects were undergraduate students from the University of California San Diego and were recruited from a database of volunteer subjects. Eight sessions were run, using a total of 96 subjects. No subject participated in more than one session. In addition to this data, I analyze data from one of the experimental treatments in Battaglini and Palfrey (2012). The two experimental sessions for their treatment were run at the Princeton Laboratory for Experimental Social Science and used 24 undergraduate students from Princeton University. The procedures used to collect the data from Battaglini and Palfrey (2012) are identical to the procedures used to collect the other data presented in this paper (including the computer program and the instructions, up to the different bargaining protocol and/or discount factor).[11]

I consider 3 experimental treatments. The experimental manipulations are the discount factor — that is, the degree of patience of the committee — and the bargaining protocol adopted to make decisions — that is, whether any committee member has the power to oppose proposals. Four sessions feature *low patience* committees ($\delta = 0.50$), and six sessions feature *high patience* committees ($\delta = 0.75$). Discount factors were induced by a random termination rule: after each round of the same game, a fair die was rolled by the experimenter at the front of the room, with the outcome determining whether the game continued to

[11]The only existing experimental papers on divide-the-dollar bargaining with endogenous status quo are Battaglini and Palfrey (2012) and Baron et al. (2017). All treatments in these papers use three-members committees and a simple-majority voting rule. The 'continuous allocations' treatment with $\delta = 3/4$ from Battaglini and Palfrey (2012) is perfectly comparable to one of my experimental treatments with veto power ('Veto Games, High Patience'), the only difference being that no committee member has the power to oppose a proposal. The other experimental treatments presented in Battaglini and Palfrey (2012) are not comparable to any of my experimental treatments with veto power, as they restrict the set of feasible allocations or use $\delta = 5/6$. Similarly, none of the experimental treatments presented in Baron et al. (2017) is comparable to any of my experimental treatments with veto power, as they allow communication among committee members and, even in the sole treatment without communication, use $\delta = 4/5$ and determine the identity of the proposer at the beginning of each period (thus, asking only one committee member — that is, the actual proposer — to submit a proposal).

another round (with probability δ). This is a standard technique used in the experimental literature to preserve the incentives of infinite horizon games in the laboratory (Roth and Murnighan 1978, Fréchette and Yuksel 2017).[12]

All sessions were conducted with 12 subjects, divided into 4 committees of 3 members each. Committees stayed the same throughout the rounds of a given game, and subjects were randomly rematched into committees between games. The exogenous amount of resources in each round was 60 experimental units (corresponding to $2). At the beginning of each game, an initial status quo was randomly chosen by the computer among all vectors of three non-negative integers which sum to 60. After being informed of the initial status quo, each committee member was prompted to enter a *provisional proposal*. After all members had entered a provisional proposal, one was selected at random to become the *proposed budget*. This proposal was then voted on against the status quo, which was referred to as the *standing budget*. In eight sessions ('*Veto Games*'), one committee member was a veto player and the proposed budget defeated the status quo with the approval of the veto player and at least one non-veto player.[13] In two sessions ('*Control Games*'), no committee member had the power to oppose proposals and the proposed budget defeated the status quo only with the approval of a at least two committee members (that is, a simple majority). In all sessions, whichever budget passed the voting stage was the policy that was implemented in that round, each member received earnings accordingly, and the budget that just passed became the new status quo. Instructions were read aloud and subjects were required to correctly answer all questions on a short comprehension quiz before the experiment was conducted. The experiments were conducted via computers.[14] Table 1 summarizes the experimental design.

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[12]The length of a game ranged from 1 to 13 rounds. To ensure the same number of expected rounds (40), each of the high patience sessions lasted for 10 games and each of the low patience sessions for 20 games.

[13]Veto players were selected randomly at the beginning of the session, with their role as veto players remaining fixed throughout the session.

[14]Sample instructions are available in the Appendix. The computer program used in the experiment was an extension to the open source software Multistage.

Treatment	Veto Power	δ	Sessions	Committees	Subjects
Veto Games, High Patience	Yes	3/4	4	160	48
Veto Games, Low Patience	Yes	1/2	4	320	48
Control Games, High Patience	No	3/4	2	80	24

Table 1: Experimental design. 'Control Games, High Patience' from Battaglini and Palfrey (2012)

5 Experimental Results

In this Section, I investigate the causal effect of dynamic incentives, focusing on committees which share the same bargaining protocol featuring a veto player (*Veto Games*) but differ in the committee members' degree of patience (*High Patience* versus *Low Patience*). I also investigate the causal effect of introducing veto power, focusing on committees which share the same discount factor (*High Patience*) but differ in the bargaining protocol (*Veto Games* versus *Control Games*). To compare policy outcomes and bargaining behavior between different treatments, I use random effects panel regressions with standard errors clustered at the session level. Clustering at the session level accounts for potential interdependencies between observations that come from random re-matching of subjects between games in a session.[15]

5.1 Policy Outcomes and Dynamics

The evolution of policies over time provides a clear picture of outcome dynamics, since it provides a synthetic description of aggregate behavioral data on both proposal making and voting. One way to represent the data compactly is to cluster policies in seven regions. The D regions correspond to dictatorial allocations where one committee member receives the lion's share of the budget: D1, D2 and DV are the regions where, respectively, committee member 1, committee member 2 or the veto player receives at least 2/3 of the budget, that is, 40 out of 60 tokens. The U region consists of universal allocations, where all committee members receive at least 1/4 of the budget (15 tokens out of 60) and, thus, the budget is equally,

[15]See Fréchette (2012) for a discussion.

or nearly equally, shared. Finally, the C regions correspond to the remaining allocations, where only two committee members receive a substantial share of the budget, while the third committee member is assigned a negligible share: C12 is the coalition composed of committee member 1 and committee member 2; C1V is the coalition composed of committee member 1 and the veto player; and C2V is the coalition composed of committee member 2 and the veto player.[16] The overall frequency of each region and the transition probabilities between each pair of regions for the three treatments is summarized in Table 2. For each panel, the last row gives the overall outcome frequencies, excluding the initial status quo policies, which were decided randomly by the computer to start each game. Each cell in the other seven rows gives the probability of moving to a policy in the column region when starting from a policy in the row region. I highlight five results from this table.[17]

Finding 1: *In Veto Games, most policies give a positive amount of resources to the veto player and to, at most, one non-veto player.* In both high and low patience committees, around 88% of all policies give a substantial share to the veto player. Moreover, only around 22% of all policies give a substantial share to both non-veto players (28% in high patience committees and 17% in low patience committees).

Finding 2: *In Veto Games, allocations which give most resources to the veto player are an absorbing state.* The chance of leaving region DV is around 2% in high patience committees and around 3% in low patience committees. This is the only absorbing state: the second most resilient region is U, which survives 80% of the time in high patience committees and 55% of the time in low patience committees (meaning that the status quo

[16]In Control Games, where no committee member holds the power to veto, D3 is the region where committee member 3 receives at least 40 out of 60 tokens; C13 is the region where most of the budget is shared by committee members 1 and 3; and C23 is the region where most of the budget is shared between committee members 2 and 3.

[17]Table 6 in the Appendix shows that these results are robust to a different classification of outcomes, which adopts a stricter definition of dictatorial and universal allocations. In Table 6, I define as dictatorial an allocation which gives at least 3/4 of the budget (45 out of 60 tokens) to a single committee member; and I define as universal an allocation which gives at least 3/10 of the budget (18 tokens out of 60) to each committee member.

Panel A: Veto Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.45	0.03	0.03	0.04	0.05	0.22	0.18
Dictator 2	0.12	0.40	0.07	0.07	0.14	0.05	0.14
Dictator V	0.00	0.00	0.98	0.00	0.01	0.01	0.01
Coalition 1 + 2	0.02	0.02	0.00	0.67	0.05	0.07	0.16
Coalition 1 + V	0.00	0.00	0.16	0.00	0.51	0.28	0.05
Coalition 2 + V	0.01	0.00	0.13	0.00	0.26	0.56	0.04
Universal	0.01	0.01	0.03	0.00	0.08	0.09	0.80
Frequency	0.05	0.02	0.36	0.04	0.13	0.16	0.23

Panel B: Veto Games, Low Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.22*	0.10**	0.11	0.00**	0.11	0.30	0.17
Dictator 2	0.14	0.32	0.16*	0.00**	0.16	0.06	0.16
Dictator V	0.00	0.00	0.97	0.01	0.00	0.00	0.03
Coalition 1 + 2	0.07	0.15	0.02	0.29*	0.15**	0.24**	0.07
Coalition 1 + V	0.01	0.03	0.20	0.00	0.43	0.22*	0.10
Coalition 2 + V	0.02	0.02	0.28**	0.00	0.20	0.42	0.06
Universal	0.05	0.01	0.04	0.00	0.23	0.13	0.55**
Frequency	0.05	0.05*	0.43	0.02**	0.15	0.15	0.15

Panel C: Control Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	D3	C12	C13	C23	U
Dictator 1	0.24*	0.33**	0.19**	0.00**	0.10	0.14	0.00*
Dictator 2	0.15	0.35	0.15	0.00**	0.25*	0.00*	0.10
Dictator 3	0.08	0.35**	0.23**	0.27**	0.04	0.00	0.04
Coalition 1 + 2	0.12**	0.22**	0.00	0.31**	0.14*	0.20	0.02*
Coalition 1 + 3	0.11**	0.01	0.14	0.16**	0.33*	0.21**	0.04
Coalition 2 + 3	0.00	0.08	0.03**	0.12**	0.23	0.40	0.05
Universal	0.00	0.00	0.05	0.15**	0.18	0.18	0.45**
Frequency	0.09	0.16**	0.09**	0.16**	0.21**	0.20	0.09*

Table 2: Policy frequencies and transition probabilities. Notes: ** and * indicate difference with *Veto Games, High Patience* is significant, respectively, at 1% and at 5% level (see p-values in Table 5).

policy transitions to another region, respectively, 20% and 45% of the time).

Finding 3: *In Veto Games, the overall frequency of dictatorial and universal allocation types does not depend on legislators' patience.* While overall there is a greater frequency of dictatorial allocations in low patience committees (53% versus 43%) and a greater frequency of universal allocations in high patience committees (23% versus 16%), these differences are not statistically significant when taking into account the correlation structure in the data.

Finding 4: *In Veto Games, the survival rate of allocations giving a substantial amount to both non-veto players is greater in more patient committees.* The diagonal of the transition matrices for veto games suggests that there is status quo inertia (at least within the boundaries of these regions) and this is true also for status quo policies which do not assign resources primarily to a (minimal) winning coalition — that is, policies where resources are mostly shared between the two non-veto players or policies where every committee members receive a non-negligible share. This inertia is statistically stronger in more patient committees: the chance a status quo in region C12 survives is 29% in low patience committees and 67% in high patience committees; the chance a status quo in region U survives is 55% in low patience committees and 80% in high patience committees. Moreover, while they represent only a small fraction of policies in both treatments, allocations in region C12 are more frequent in more patient committees (4% versus 2%) and this difference is statistically significant.

Finding 5: *In High Patience Games, introducing a veto player increases the overall frequency of both dictatorial and universal allocations to the expense of allocations which give a positive share to two committee members; and it increases the survival rate of all allocation types.* Veto Games have a higher frequency of dictatorial allocations (43%, 36% in DV and 7% in D1 or D2) than Control Games (34%) but also a higher frequency of universal allocations (23% versus 9%). These difference are statistically significant. Moreover, the transition probabilities on the diagonal of Table 2 — that is, the survival rates of each allocation type — are larger in Veto Games for all allocation types. This difference is particularly strong for regions DV/D3 (98% versus 23%), C12 (67% versus 31%) and U (80% versus 45%) and statistically significant for all regions but D2 and C23.

5.2 Policy Inequality

From the transition probabilities in Table 2, we can see that the policies slowly transition to the DV region, regardless of the initial status quo and degree of patience and that, once there, they do not leave this region. The transition to DV can happen directly: with the exception of region C12 in committees with high patience, there is a positive probability of moving to region DV starting from any region. More frequently, the transition to DV happens indirectly: there is a substantial probability of moving to region DV when the status quo lies in a region where exactly one non-veto player has a negligible share of the budget—that is, regions C1V and C2V—and policies move to these regions at substantial rates starting from any other region (the only exception being region DV, which is an absorbing state).[18] Since this is one of the normative concerns about granting the power to oppose to a single legislator, it is interesting to give a closer look to the evolution of the allocation to the veto player.

Figure 1 shows the evolution of the average allocation to the veto player as the number of rounds played in the same game grows, separately for the two treatments with veto power. The first data point on the left is the average allocation to the veto player in the initial status quo policy randomly drawn by the computer in all games of the same treatment.[19] The duration of each game is stochastic: the number of observations available for each round is different and higher rounds have fewer observations.[20]

[18] Starting from regions C1V and C2V, policies move to region DV 14% of the time with high patience and 24% of the time with low patience. The probability of moving to region C1V or C2V starting from any region other than DV is at least 12% (in high patience committees, starting from region C12) and as large as 41% (in low patience committees, starting from region D1).

[19] The initial allocation to the veto player is not statistically different between the two treatments (p-value: 0.593).

[20] For these two treatments, Figure 1 shows only rounds for which we have at least 12 committees for each treatment. This covers 93% of all observations for high patience committees and 96% of all observations for low patience committees.

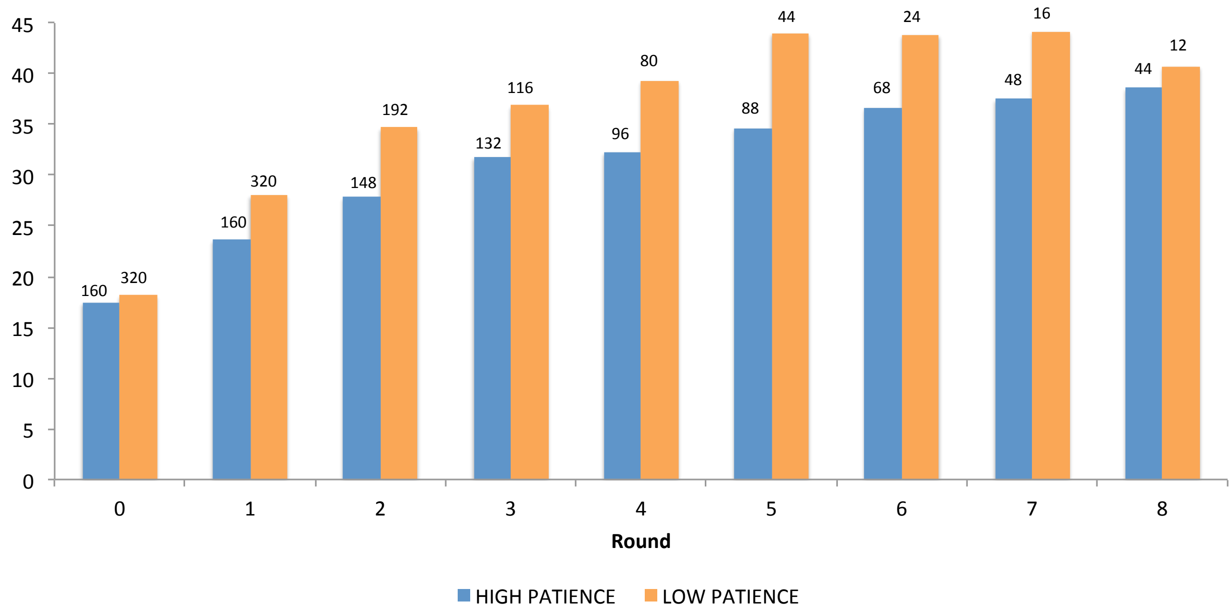

Figure 1: Average allocation to veto player. Numbers on bars are observations (committees).

Finding 6: *There is a ratchet effect in the allocation to the veto player.* The allocation to the veto player gradually increases over time in both treatments with a veto player. The allocation to the veto player is larger in more patient committees in all rounds.[21]

This result suggests that veto power leads to higher inequality, especially as the game unfolds. At the same time, the analysis in the previous Section showed that introducing a veto player increases the overall frequency and survival rate of allocations giving a substantial amount to all committee members. To assess the balance of these two effects, I investigate more explicitly the degree of inequality in laboratory committees and how it is affected by patience and the presence of a veto player.

To this end, I calculate the Gini Coefficient of allocations in a round as

$$G^t = \frac{1}{2\mu n^2} \sum_{j=1}^{3} \sum_{k=1}^{3} \left| x_j^t - x_k^t \right|,$$

[21]The difference between the High Patience and the Low Patience series is positive for all rounds and significant at the 5% level for round 1 (p-value: 0.041), round 2 (p-value: 0.010), round 3 (p-value: 0.032), round 4 (p-value: 0.037), round 5 (p-value: 0.010), round 6 (p-value: 0.011) and at the 10% level for round 7 (p-value: 0.051). The lack of significance for round 8 (p-value: 0.650) can be due to the random termination rule, which means the number of observations for high rounds is small in both treatments. The existence of a ratchet effect is confirmed by the Tobit regressions presented in Table 8 in the Appendix.

where μ is the average allocation to a committee member in a round (that is, 20) and n is the number of committee members (that is, 3). Similarly, I calculate the Gini Coefficient of cumulated allocations in a game as

$$G = \frac{1}{2Mn^2} \sum_{j=1}^{3} \sum_{k=1}^{3} \left| \sum_{t=1}^{T} x_j^t - \sum_{t=1}^{T} x_k^t \right| ,$$

where T is the number of rounds in the game (as determined by the random termination rule) and M is the average allocation to a committee member in the game (that is, $20T$). In both cases, inequality is increasing in the Gini Coefficient: the most equal committee is one in which every committee member receives the same amount and the Gini coefficient is equal to 0; the most unequal committee is one in which a single committee member receives 100% of the total resources allocated and the remaining $n-1$ committee members receive none and the Gini Coefficient is equal to $1 - 1/n = 2/3$.

Finding 7: *Introducing a veto player does not affect the degree of inequality in a single round but it increases the degree of inequality in a game. In Veto Games, making legislators more patient does not affect the degree of inequality.* The average Gini Coefficient for earnings in a round is 0.34 in Veto Games with High Patience, 0.36 in Control Games with High Patience, and 0.38 in Veto Games with Low Patience. The differences are not statistically significant.[22] The average Gini Coefficient for earnings in a game is 0.28 in Veto Games with High Patience, 0.15 in Control Games with High Patience, and 0.32 in Veto Games with Low Patience. The difference between Veto Games with High Patience and Control Games with High Patience is statistically significant at the 1% level (p-value: 0.009) but the Gini Coefficients from the two treatments with veto players are statistically indistinguishable (p-value: 0.121).[23]

[22]The p-value for the comparison between Veto Games with High Patience and Veto Games with Low Patience is 0.278. The p-value for the comparison between Veto Games with High Patience and Control Games with High Patience is 0.929.

[23]For robustness, I calculate the Herfindahl-Hirschman Index (HHI) of allocations in a round as $H^t =$

5.3 Status Quo Inertia

The transition probabilities in Table 2 suggest that both introducing a veto player and making legislators more patient increases the chance the policy implemented in a round lies in the same region as the status quo. While this means implemented policies are more likely to share some important features with the status quo policy (e.g., the number of legislators receiving a substantial amount of resources), this does not necessarily mean that the chance of policy stalemate is higher. This is because policy regions as defined in Table 2 are coarse and, thus, policies can be in the same region as the status quo, yet be different from the status quo. In order to assess the consequences of veto power and patience on status quo inertia, we tackle the question directly.

Finding 8: *Introducing a veto player increases status quo inertia. In committees with a veto player, making legislators more patient does not affect status quo inertia.* The probability that the policy outcome in a round coincides with the status quo policy is 48% in Veto Games with High Patience, 26% in Control Games with High Patience, and 39% in Veto Games with Low Patience. Focusing on High Patience committees, the difference between Veto Games and Control Games is statistically significant at the 1% level (p-value: 0.000). On the other hand, focusing on Veto Games, the difference between High Patience and Low Patience committees is not statistically significant at conventional levels (p-value: 0.113).

A: VETO PROPOSER	HIGH PATIENCE		LOW PATIENCE	
	ALL	ACC	ALL	ACC
Mean Premium to Proposer	8.34	7.71	12.65*	12.77**
Mean Premium to Other 1	7.09	9.00	4.96	6.13*
Mean Premium to Other 2	-15.43	-17.61	-19.77	-18.89
Observations	844	178	824	215

B: NON-VETO PROPOSER	HIGH PATIENCE		LOW PATIENCE	
	ALL	ACC	ALL	ACC
Mean Premium to Proposer	8.12	9.12	10.09*	11.04
Mean Premium to Veto	-0.83	3.86	-0.35	6.81**
Mean Premium to Other Non-Veto	-7.29	-12.98	-9.74*	-17.85**
Observations	1688	291	1648	316

C: CONTROL PROPOSER	HIGH PATIENCE	
	ALL	ACC
Mean Premium to Proposer	14.81*	15.41**
Mean Premium to Other 1	6.43	7.59
Mean Premium to Other 2	-21.33*	-23.17**
Observations	1020	280

Table 3: Proposing behavior. Notes: Panels A and B are for Veto Games. Panel C is for Control Games; for each treatment, the first column is for all observed proposals, the second column for proposals that are voted on and accepted; Other 1 (Other 2) is the other committee member who receives the most (least) in the proposal; ** and * indicate difference with *Veto Games, High Patience* is significant, respectively, at 1% and at 5% level; Control Proposers are compared with Veto Proposers.

5.4 Proposal Making

To investigate the origin of the dynamic patterns described above, I decompose the determinants of the transition probabilities and analyze in detail proposal and voting behavior. Regarding proposing behavior, the theories discussed in Section 3 predict that veto proposers are forced to share resources more evenly with more patient coalition partners and that more patient non-veto players are less likely to extract resources from other non-veto players.

Table 3 shows how proposers allocate resources among committee members. To compare proposals made at different status quo policies, I look at the *premium* proposed to each committee member, rather than at the absolute amount. The premium to a member is the difference between the amount proposed to that member by the agenda setter and the amount granted to that same member by the status quo policy. If the premium to a member is positive, this means the proposer is suggesting an increase to that member's allocation.

Finding 9: *Proposers are less greedy and more generous with other committee members in more patient committees and in committees with veto power (that is, veto power and proposal power are substitutes).* Regardless of their degree of patience and their role, proposers expropriate resources from a non-veto player and redistribute the spoils towards themselves and a coalition partner. At the same time, as predicted by the theories, veto proposers share the spoils more evenly in high patience than in low patience committees—that is, the premium to a veto proposer and the premium to the non-veto coalition partner are, respectively, smaller and larger in high patience than in low patience committees. Moreover, non-veto players propose a larger premium to the other non-veto player—or, in other words, propose

$\sum_{i=1}^{3}\left(\frac{x_i^t}{60}\right)^2$ and the HHI of allocations in a game as $H = \sum_{i=1}^{3}\left(\frac{\sum_{t=1}^{T} x_i^t}{60T}\right)^2$. In both cases, the HHI ranges between $1/n$ and 1 and inequality is increasing in the value of the index. The average HHI for earnings in a round is 0.53 in Veto Games with High Patience, 0.53 in Control Games with High Patience, and 0.56 in Veto Games with Low Patience. The average HHI for earnings in a game is 0.48 in Veto Games with High Patience, 0.38 in Control Games with High Patience, and 0.51 in Veto Games with Low Patience. The statistical comparisons are identical to those for the Gini Coefficient discussed above: the p-values for the comparison between Veto Games with High Patience and Veto Games with Low Patience are 0.297 for earnings in a round and 0.133 for earnings in a game; the p-values for the comparison between Veto Games with High Patience and Control Games with High Patience are 0.273 for earnings in a round and 0.005 for earnings in a game.

to redistribute less from a similar player—when they are more patient. As detailed in Table 3, these differences are statistically significant.[24] Finally, I compare proposers in Control Games to veto proposers in Veto Games.[25] Surprisingly (and contrary to what Kagel et al. 2010 observe for ad hoc committees), holding veto power depresses the ability of proposers to steer resources towards themselves: proposers in Control Games propose a much larger increase to their status quo allocation than veto proposers in Veto Games and are able to do this at the expense of the committee member who does not belong to their proposed coalition.[26] As suggested by the theories reviewed in Section 3, this is consistent with non-veto player's strategic incentive to protect similar players from expropriation and, thus, a lower willingness of coalition partners to support proposals which redistribute resources away from the committee member not included in the coalition. To investigate this possibility, we analyze voting behavior.

5.5 Voting Decisions

Finally, to investigate the determinants of voting behavior, I run regressions for the likelihood of voting in favor of a proposal with premium to oneself and premium to the proposer as the explanatory variables. I do this separately for different proposer and non-proposer pairs—whether they are a veto or non-veto player—and for different pairs of treatments—columns 1 through 3 analyze behavior in veto games and the effect of increasing patience; columns 4 through 6 analyze behavior in high patience games and the effect of adding a veto

[24]Regarding the premium to the proposer offered by a veto proposer, the p-value is 0.016 for all allocation and 0.000 for accepted allocations. Regarding the premium to the non-veto coalition partner offered by a veto proposer, the p-value is 0.217 for all allocations and 0.040 for accepted allocations. Regarding the premium to the other non-veto player offered by a non-veto proposer, the p-value is 0.017 for all allocations and 0.001 for accepted allocations.

[25]Note that both type of proposers can form a winning coalition with either other committee member. As this is not true of non-veto proposers in Veto Games (who can form a winning coalition only with the veto player), pooling together all proposers from Veto Games would make the comparison between committees with veto power and committees without veto power more difficult to interpret.

[26]Regarding the premium to the proposer, the p-value is 0.026 for all allocations and 0.000 for accepted allocations. Regarding the premium to the third committee member, the p-value is 0.032 for all allocations and 0.000 for accepted allocations.

	VETO GAMES			HIGH PATIENCE GAMES		
	(1)	(2)	(3)	(4)	(5)	(6)
Premium Me	0.020**	0.021**	0.016**	0.019**	0.019**	0.019**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Premium Prop	0.007**	0.005**	0.004	0.005**	0.005**	0.004**
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
High Patience	-0.005	-0.049*	0.060			
	(0.041)	(0.022)	(0.040)			
Veto Game				-0.021	-0.057**	-0.119**
				(0.022)	(0.018)	(0.028)
Premium Me	0.003	-0.004	0.004*	0.004*	-0.002	0.001
x Treatment	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.001)
Premium Prop	-0.000	-0.007*	0.001	0.002	-0.007*	0.000
x Treatment	(0.002)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)
Constant	0.538**	0.544**	0.378**	0.553**	0.554**	0.558**
	(0.035)	(0.013)	(0.030)	(0.006)	(0.005)	(0.002)
Voter Type	Veto	Non-Veto	Non-Veto	Veto	Non-Veto	Non-Veto
Proposer Type	Non-Veto	Veto	Non-Veto	Non-Veto	Veto	Non-Veto
Pseudo-R2	0.2952	0.4488	0.3034	0.4020	0.4749	0.4306
Observations	1126	1084	1126	1246	1236	1246

Table 4: Probability of supporting a proposal: panel random fixed effects estimates with standard errors clustered at the session level. Notes: ** and * indicate, respectively, significant at 1% and at 5% level. ‘Treatment’ refers to the dummy variable ’High Patience’ in columns 1 through 3 and to the dummy variable ’Veto Game’ in columns 4 through 6. The sample in columns 4 through 6 contains all non-proposing committee members and a subset of committee members as detailed in rows Voter Type and Proposer Type.

player. I exclude proposers from the analysis.[27] Table 4 shows the results.

Finding 10: *Committee members are less willing to support an increase to the proposer's allocation when the proposer holds veto power and when they are more patient.* As predicted by the theories, non-veto players in high patience committees are more concerned about the premium to the proposer than non-veto players in low patience committees as well as than control players in committees with the same degree of patience: the interaction variable between high patience committees and premium to the proposer in column 2 and the interaction variable between veto committees and premium to the proposer in column 5 are negative and statistically significant.

6 Conclusions

This paper presents the results of laboratory experiments explicitly designed to study the consequences of veto power in *standing committees* where committee member bargain over multiple policies and the status quo policy evolves *endogenously.* These are important features of many real world bargaining environments. The main prediction of recent theories of dynamic legislative bargaining with veto power finds support in the behavior of laboratory committees: patient legislators exhibit significantly different proposal and voting behavior than impatient legislators and patient non-veto players are less willing to support reforms redistributing resources away from similar legislators, as they anticipate this will make them more vulnerable to expropriation in the future. Nonetheless, the allocation to the veto player gradually increases over time and, even if the introduction of veto power does not affect the inequality of outcomes in a single bargaining round, it does affect the inequality of accumulated earnings in the entire dynamic game. These results have important implications for the optimal design of institutions.

This paper is the first to investigate experimentally the consequences of veto power in a dynamic setting. While the results certainly add to our understanding of the incentives

[27] Excluding votes between identical allocations, subjects vote in favor of their own proposal 93% of the time (91% in Veto Games High Patience, 94% in Veto Games Low Patience, and 95% in Control Games).

present in real world legislatures, the setup is intentionally very simple and explores a limited number of treatments. There are many possible directions for next steps in this research. One interesting possibility is to allow for unrestricted communication among committee members. Recent experimental studies on dynamic bargaining show that communication affects the prevailing norm of fairness (Baron et al. 2017) and makes it easier to sustain non-stationary, history-dependent strategies (Agranov et al. 2016a).

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A Additional Experimental Results

Panel A: Veto Games, High Patience vs Veto Gamest, Low Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.018	0.000	0.096	0.003	–	0.468	0.513
Dictator 2	0.979	0.425	0.042	0.000	0.844	0.658	0.698
Dictator V	–	–	0.725	0.282	0.265	0.265	0.643
Coalition 1 + 2	0.153	0.051	–	0.022	0.004	0.008	0.234
Coalition 1 + V	–	0.089	0.524	–	0.298	0.014	0.079
Coalition 2 + V	0.605	0.389	0.004	–	0.292	0.087	0.420
Universal	0.240	–	0.353	–	0.073	0.286	0.002
Frequency	0.676	0.027	0.430	0.008	0.521	0.554	0.261

Panel B: Veto Games, High Patience vs Control Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.036	0.000	0.002	0.004	–	0.063	0.019
Dictator 2	0.955	0.617	0.079	0.000	0.019	0.032	–
Dictator V	0.330	0.000	0.000	0.000	0.346	0.277	0.958
Coalition 1 + 2	0.001	0.000	–	0.000	0.014	0.084	0.030
Coalition 1 + V	0.000	0.293	0.404	0.000	0.015	0.000	0.063
Coalition 2 + V	0.239	–	0.005	0.000	0.648	0.227	0.934
Universal	0.139	–	0.365	0.000	0.064	0.061	0.000
Frequency	0.113	0.000	0.000	0.000	0.000	0.150	0.038

Table 5: Policy frequencies and transition probabilities, p-values for treatment effects.

Panel A: Veto Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.29	0.10	0.00	0.04	0.10	0.33	0.14
Dictator 2	0.16	0.37	0.00	0.16	0.21	0.00	0.11
Dictator V	0.00	0.00	0.99	0.00	0.01	0.00	0.00
Coalition 1 + 2	0.02	0.00	0.00	0.61	0.10	0.12	0.15
Coalition 1 + V	0.00	0.00	0.12	0.00	0.57	0.26	0.06
Coalition 2 + V	0.00	0.00	0.11	0.00	0.29	0.56	0.04
Universal	0.00	0.00	0.00	0.00	0.08	0.10	0.82
Frequency	0.01	0.01	0.24	0.07	0.26	0.24	0.16

Panel B: Veto Games, Low Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.09	0.03	0.13*	0.03	0.22	0.25*	0.25
Dictator 2	0.09	0.29	0.09*	0.03**	0.23	0.09	0.20
Dictator V	0.00	0.00	0.98	0.01	0.01	0.00	0.01
Coalition 1 + 2	0.03	0.09	0.01	0.24**	0.21	0.29*	0.13
Coalition 1 + V	0.00	0.00	0.13	0.01	0.54	0.27	0.05
Coalition 2 + V	0.00	0.00	0.17	0.00	0.31	0.46	0.06
Universal	0.00	0.00	0.02	0.00	0.21	0.06	0.71
Frequency	0.01	0.02**	0.24	0.03**	0.31	0.26	0.12

Panel C: Control Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	D3	C12	C13	C23	U
Dictator 1	0.14	0.29**	0.21**	0.00	0.21	0.14	0.00
Dictator 2	0.18	0.36	0.18**	0.00**	0.25**	0.04	0.00
Dictator 3	0.17	0.25*	0.17**	0.33**	0.08	0.00	0.00
Coalition 1 + 2	0.05	0.10**	0.00	0.33**	0.22	0.26	0.03**
Coalition 1 + 3	0.07**	0.00	0.03**	0.23**	0.34**	0.32	0.02**
Coalition 2 + 3	0.00	0.04**	0.02**	0.20**	0.25	0.46	0.04
Universal	0.00	0.00	0.00	0.18**	0.35*	0.06	0.41**
Frequency	0.06**	0.09**	0.04**	0.22**	0.26	0.28	0.04**

Table 6: Policy frequencies and transition probabilities, stricter definitions of D and U regions. Notes: ** and * indicate difference with *Veto Games, High Patience* is significant, respectively, at 1% and at 5% level (see p-values in Table 7).

Panel A: Veto Games, High Patience vs Veto Games, Low Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.201	0.245	0.013	0.671	–	0.034	–
Dictator 2	0.358	0.223	0.038	0.003	0.753	0.176	0.764
Dictator V	–	– 0.488	0.206	0.737	–	0.206	
Coalition 1 + 2	0.641	–	–	0.000	0.173	0.044	0.418
Coalition 1 + V	–	–	0.933	0.858	0.709	0.635	0.699
Coalition 2 + V	–	–	0.130	–	0.867	0.205	0.293
Universal	–	–	–	–	0.305	0.495	0.261
Frequency	0.810	0.008	0.733	0.001	0.272	0.217	0.662

Panel B: Veto Games, High Patience vs Control Games, High Patience

	Status Quo (t+1)						
Status Quo (t)	D1	D2	DV	C12	C1V	C2V	U
Dictator 1	0.348	0.002	0.000	0.059	–	0.086	–
Dictator 2	0.809	0.858	0.000	0.000	0.000	0.243	–
Dictator 3	–	0.024	0.000	0.000	0.155	–	–
Coalition 1 + 2	0.256	0.000	–	0.000	0.140	0.084	0.000
Coalition 1 + 3	0.000	–	0.000	0.000	0.000	0.332	0.005
Coalition 2 + 3	–	0.000	0.000	0.000	0.057	0.094	0.910
Universal	–	–	–	0.000	0.016	0.356	0.000
Frequency	0.006	0.000	0.000	0.000	0.957	0.099	0.005

Table 7: Policy frequencies and transition probabilities, stricter definitions of D and U regions, p-values for treatment effects.

	(1)	(2)	(3)
Round	2.545**	3.185**	2.531**
	(0.000)	(0.001)	(0.000)
Constant	22.707**	23.360**	20.647**
	(1.022)	(1.301)	(2.326)
Sample	All	$\delta = 0.50$	$\delta = 0.75$
Pseudo-R2	0.0210	0.0223	0.0254
Observations	2148	1144	1004

Table 8: Tobit estimates of allocation to the veto player (out of 60 units). The unit of analysis is a committee in a round and include the initial status quo exogenously assigned by the computer (coded as policy outcome in round 0). Standard errors clustered by sessions in parentheses. ** significant at the 1% level.

B Instructions (Veto Games, High Patience Treatment)

Thank you for agreeing to participate in this experiment. During the experiment we require your complete, undistracted attention and ask that you follow instructions carefully. Please turn off your cell phones. Do not open other applications on your computer, chat with other students, or engage in other distracting activities, such as reading books, doing homework, etc. You will be paid for your participation in cash, at the end of the experiment. Different participants may earn different amounts. What you earn depends partly on your decisions, partly on the decisions of others, and partly on chance. It is important that you do not talk or in any way try to communicate with other participants during the experiments.

Following the instructions, there will be a practice session and a short comprehension quiz. All questions on the quiz must be answered correctly before continuing to the paid session. At the end you will be paid in private and you are under no obligation to tell others how much you earned. Your earnings are denominated in FRANCS which will be converted to dollars at the rate of 60 FRANCS to 1 DOLLAR.

This an experiment in committee decision making. The experiment will take place over a sequence of 10 matches. We begin the match by dividing you into 4 committees of 3 members each. Each of you is assigned to exactly one of these committees. You will be given a temporary Committee Member Number (either 1, 2 or 3) and you are not told the identity of the other members of your committee. One of the members of your committee is selected at random by the computer to be the Veto Player for this committee. The Committee Member Number of the Veto Player will be displayed on your computer. For example, if you are Committee Member Number 1 and the Veto Player for this committee in this match is Committee Member Number 1, then you are the Veto Player in your committee in this match. In each match, your committee will make budget decisions over a sequence of several rounds.

In each round, your committee has a budget of 60 francs. Your committee must decide how to divide this budget into private allocations A1, A2, and A3, in integer amounts. These private allocations A1, A2, and A3 have all to be greater than or equal to 0 and must add up to exactly 60. If your committee budget decision is (A1, A2, A3), then A1 francs go directly to member 1's earnings, A2 francs go to member 2's earnings, and A3 francs go to member 3's earnings.

Here is the procedure for how your committee makes budget decisions. At the beginning of the first round, the computer randomly selects an initial budget decision (A1, A2, A3) and displays it on your computer as what we call the Standing Budget. Next, each of you makes a provisional proposal for an alternative budget decision you would like your committee to consider. (You may propose the Standing Budget itself if you wish.) Your proposal can be any budget decision—that is, any three non-negative numbers (including 0s) that add up to exactly 60. After all three members of your committee have chosen provisional proposals, one of these provisional proposals is selected at random by the computer to be the Proposed Budget. The Proposed Budget will be displayed on your computer, along with the number of the Committee Member who proposed it. The committee then conducts a vote between the Standing Budget and the Proposed Budget. The Proposed Budget passes only if the Veto Player and at least one other committee member vote in its favor. If the Veto Player votes against the Proposed Budget, the Standing Budget wins. If the Veto Player votes in favor of the Proposed Budget but the two other committee members vote against it, the Standing Budget wins. Your earnings in this round are determined by your private allocation in whichever budget decision wins in the voting stage.

One important aspect of your committee's budget decision is that it is inertial. That is, the budget decision that prevails in round 1 becomes the Standing Budget in round 2 and will thus determine the private allocations in round 2 if your committee does not agree on a different budget decision. Every round, the budget decision of your committee determines both your earnings in this round and the Standing Budget for the following round.

The total number of rounds in a match will depend on the rolling of a fair 8-sided die.

When the first round ends, we roll it to decide whether to move on to the second round. If the die comes up a 1 or a 2 we do not go on to round 2, and the match is over. We will describe in a moment what happens after a match is over. If the die comes up a 3, 4, 5, 6, 7, or 8, we continue to the next round. In round 2, your Committee Member Number, the members of your committee and the identity of the Veto Player all stay the same. Round 2 proceeds just as round 1, with the exception that the Standing Budget in round 2 is whatever the committee decision was in round 1. Therefore, if the original Standing Budget won the voting stage in round 1, this continues as the Standing Budget in round 2. But if the Proposed Budget in round 1 won the voting stage, then it replaces the original Standing Budget and becomes the new Standing Budget for round 2. The proposal and voting process then follows the same rules as round 1. Once again, each member types in a proposal, the computer then randomly selects one of them to be the Proposed Budget and a vote is taken between the round 2 Standing Budget and the Proposed Budget. After round 2 is over, we roll the 8-sided die again to determine whether to move on to a third round. We continue to more rounds, until a 1 or a 2 is rolled at the end of a round and the match ends. It is important to remember that your Committee Member Number, the members of your committee, and the identity of the Veto Player all stay the same in all rounds of the match. In round T, the Standing Budget is always whatever the committee decision was in round T-1.

After the first match ends, we move to match 2. In this new match, you are reshuffled randomly into 4 new committees of 3 members each. Your assigned a new Committee Member Number (1, 2, or 3). The computer randomly selects a Standing Budget for each committee for round 1, and randomly selects a Veto Player for each committee. The match then proceeds the same way as match 1. This continues for 10 matches. After match 10, the experiment is over. Your total earnings for the experiment are the sum of your earnings over all rounds and all matches.