

No. 58 october 2010

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Research Paper Series
Thurgau Institute of Economics and Department of Economics
at the University of Konstanz

Member of

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Agenda Setting and Reciprocal Vote Trading

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This version: April 2012

Abstract

When committees decide on a series of independent proposals chairmen in control of the voting sequence have a strong incentive to take advantage of their power. Because sequential voting on independent proposals allows for vote trading based on trust and reciprocity specific sequences of bills make vote trading coalitions including the chairmen more likely. However, reciprocal committee members are also likely to punish manipulating chairman. We study the implications of reciprocity on agenda setting possibilities in a laboratory experiment. We find that agenda setters are able to take advantage of their power when setting the agenda because support by committee members benefiting from the chosen sequence outweighs punishment by those suffering from it. Thus reciprocity provides additional grounds for agenda manipulation.

Keywords: Agenda Setting, Sequential Voting, Vote Trading, Reciprocity, Experiment

JEL-Classification: C92, D71, D72, P16

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We would like to thank Kate Bendrick, Lisa Bruttel, Gerald Eisenkopf, Pascal Sulser, Verena Utikal, Irenaeus Wolff and participants of the ESA European Meeting 2009 as well as participants of the GfeW Meeting 2009 for helpful thoughts and comments.

1 Introduction

Committees frequently decide on series of independent proposals. In politics, committees vote sequentially on independent issues (e.g. healthcare, infrastructure or environmental issues). In universities, committees sequentially decide on the acceptance (or rejection) of applicants for several positions. In firms, committees vote on different projects sequentially. Voting on a series of unrelated proposals will allow for vote trading without explicit commitment devices if committee members trust and reciprocate and committee members' preferences are common knowledge (see Fischbacher and Schudy, 2012). Committee members with low preferences intensities for proposal A may support counterparts with high preferences for proposal A in hope of reward when it comes to voting on proposal B in which trusters themselves have high preference intensities and trustees have low preference intensities.

The aim of this paper is to investigate whether vote trading based on trust and reciprocity provides additional agenda setting possibilities for committee chairmen. While vote trading based on trust and reciprocity increases the feasible set of outcomes in a sequential decision making procedure (and thereby provides additional grounds for agenda manipulation) reciprocity among legislators may also reduce agenda setting possibilities because agenda setting may be considered as morally problematic. In turn, reciprocal committee members who dislike agenda manipulation may also punish the agenda setter.¹

To study the impact of reciprocal behavior on agenda setting possibilities in a sequential collective decision making procedure, we designed a laboratory experiment in which vote trading and agenda manipulation cannot occur when the committee is comprised of selfish members, but can occur if committee members are reciprocal. In the experiment, a committee decides in a bill-by-bill voting procedure under simple majority rule. All bills are efficient and any subset of bills can pass or fail. Each bill is preferred by exactly one committee member and preferences over bills are common knowledge. Bills can thus only be passed by vote trading coalitions. The agenda setter's

¹ In his doctorate, Satterthwaite (1973, p. 5-16) names five reasons why agenda setting may be perceived problematic: inequality in skills (some legislators are able to manipulate, others are not), inefficiency (resulting from gathering costly information about others' preferences in order to manipulate), non-transparency of voters' preferences (because some voters abstain or hide their true payoffs to avoid manipulation), non-transparency of preferences and representatives' preferences (voting decision may not reflect representatives' preferences), and randomness of voting outcomes (when dominant strategies are missing and several legislators try to manipulate the agenda). See van Hees and Dowding (2008) for a detailed discussion of these arguments.

power is restricted to the control over the order in which proposals are voted on,² and by design the order only matters if legislators trade votes.³ If legislators are reciprocal, the order may make certain vote trading coalitions more (or less) likely and thus affect the voting outcome. In addition, reciprocity might matter because non-agenda setters may perceive manipulation negatively, due to outcomes resulting from specific agendas chosen by the chairman. The fact that only one person in each committee is allowed to determine the order of bills on the agenda may also affect the perception of agenda setting negatively.⁴

The main interest of this paper is to understand whether reciprocity among committee members provides additional grounds for agenda manipulation and how reciprocal legislators deal with agenda manipulation. The experimental setup allows us to show whether vote trading based on reciprocity leads to additional agenda setting possibilities in a controlled environment. Researchers have studied the occurrence of vote trading in real world policy making (see e.g. Stratmann, 1992) but its implications for agenda setting possibilities are difficult to disentangle. First, legislators' voting decisions might be driven by individual reputation building. Second, it is very difficult to identify legislators' true preferences – even for legislators themselves. These problems are avoided in an experiment. First, an experiment allows for anonymous decision making. Preferences with respect to specific characteristics of other legislators or parties can thereby be excluded and reciprocity is restricted to the interaction in the experiment. Individual reputation building can be controlled for by using an appropriate matching procedure and preferences can be induced by using monetary incentives. Furthermore, preferences of different legislators can be made common knowledge in order to control for information asymmetries. The small number of decision makers in experimental voting decisions may be considered as a drawback, but also in many real

² Note that the extent of the agenda setter's control can vary extensively. Agenda setters may determine what voting procedure is used, what subset of possible alternatives in addition to the status quo is voted on or may be the only person who is able to add alternatives to an otherwise fixed set (see also Miller, 1995).

³ Casella (2011) also studies a situation in which a committee decides on a series of bills and (in some treatments) an agenda setter can determine the order of the bills. In her experiment, agenda setting does not significantly matter. However, her analysis differs in several aspects. First, her committees vote under simple majority rule with bonus votes and second and more importantly, information on legislators' preferences is private and subjects vote in a secret ballot (i.e. they receive only information whether a proposal was passed or not, but not on who voted for or against it). The latter makes vote trading among committee members particularly difficult, which may explain why agenda setting does not affect outcomes strongly.

⁴ Apart from this inequality in ability to manipulate the agenda, we excluded Satterthwaite's reasons for negative perception of agenda setting in the experiment. Information on all legislators' payoffs is common knowledge so neither the inefficiency nor the non-transparency nor the randomness argument is valid. We also do not set any default order of bills but "force" the agenda setter to choose an order irrespective of her intentions to manipulate or not.

world voting procedures committees comprised of a few members make voting decisions. In addition, adherence to the own party line may reduce the number of actual decision makers drastically.

Our findings demonstrate that agenda setting possibilities can indeed result from reciprocity among legislators. Agenda setters are well aware of their counterparts' reciprocity and consequently manipulate the agenda. We find that agenda manipulation is most profitable when information on individual voting behavior is available. This is because transparency allows for the identification of supporters. Beneficiaries of a chosen agenda discriminate positively against the agenda setter whereas those suffering from the chosen agenda vote less frequently for the agenda setter's bill, in particular when individual votes are not observable.

Traditionally agenda setting possibilities have been studied in situations in which a voting body decides on different alternatives of a single decision. In such cases reciprocity plays a minor role because legislators' possibilities to punish or reward are rather restricted.⁵ In contrast, this paper provides evidence that reciprocity and trust may significantly affect agenda setting possibilities in sequential voting on independent proposals.

The rest of the paper is organized as follows. In the next section we explain the experimental design and procedures. In Section 3 we provide predictions of our subjects' behavior. We report the results in Section 4 and conclude in Section 5.

2 Experimental design and procedures

In the experiment, three participants form a committee. The committee decides on three independent bills. Each bill is strictly preferred by exactly one member of the committee. A preferred bill yields 6 additional points for oneself, whereas the other two members of the committee lose two points each. Thus, if a bill is passed, the overall payoff will increase by two points. However, only one participant of the group gains from each bill. Consequently, each single bill is disadvantageous to a majority of the group. Table 1 shows how each bill affects the participants' payoffs. For the rest of the paper we will

⁵ For agenda setting in situations in which a voting body decides on different alternatives of a single decision see early work Gibbard (1973), Satterthwaite (1975), McKelvey (1976), Ordeshook and Palfrey (1988) and more recent work by Dutta, et al. (2004). For surveys on agenda manipulation see e.g. Cox (2006) and Cox and Shepsle (2007). For a recent survey on laboratory voting experiments including agenda setting see also Holt (2006).

call a legislator who benefits from the first bill “first beneficiary” and legislators benefiting from the second (third) bill “second (third) beneficiary”. The committee votes sequentially on each of the three bills using simple majority rule. Each bill can be passed or failed. First, all committee members simultaneously cast their votes on the first bill. Then, the committee is informed about the outcome of the vote. Second, each member casts her vote for the second bill. The second vote is displayed and the group decides on the third bill. Finally, the outcome of the third vote and the resulting payoffs are displayed.

	Bill A	Bill B	Bill C
Member A	+6	-2	-2
Member B	-2	+6	-2
Member C	-2	-2	+6

Table 1: Bills and resulting payoff changes

There are two dimensions in which we vary our experiment. The focus of this paper is on how an agenda setter influences the decision process. In the agenda setter condition, we randomly select one participant in each group who assumes the role of an agenda setter. The assignment takes place at the beginning of the experiment and subjects maintain their role during the whole experiment. In each period, one agenda setter is matched with two non-agenda setters.⁶ The agenda setter can determine the order in which the bills are put for vote in her committee.

Information on individual voting behavior is likely to affect trust and reciprocity among legislators, because it allows for the identification of supporters. We therefore study agenda setting possibilities under two conditions, first when the voting procedure is transparent and second, when only the outcome of the vote is displayed. As control treatments, we use data from an earlier experiment (see Fischbacher and Schudy, 2012), in which subjects faced the identical situation but the order of bills was determined randomly. To summarize, an agenda setter determines the order in which bills are voted on either in a transparent voting procedure (*ASFI*= **A**genda **S**etting, **F**ull **I**nformation) or in a secret ballot (*ASPI*= **A**genda **S**etting, **P**artial **I**nformation). In the control treatments a random device determines the order of bill either under full (*RAFI*= **R**andom **A**genda,

⁶ Depending on the size of the sessions we formed matching groups of at least nine participants.

Full Information) or partial information (*RAPI*= **R**andom **A**genda, **P**artial **I**nformation). In all treatments, the order of bills is displayed to the members of the committee before voting starts.

To control for learning effects and changes of voting behavior over time, participants voted on the three bills in 12 periods which were all payoff relevant. In each period, each participant was randomly sorted into a group of three participants. We use a random matching procedure, which assured that participants cannot infer any information on their current counterparts' individual voting behavior from past periods.

Treatment	# Subjects	# Sessions	# Matching-Groups
RAPI	54	2	3
ASPI	48	2	3
RAFI	51	2	3
ASFI	72	3	4

Table 2: Treatments, Sessions and Matching-Groups

Thus we exclude individual reputation building across periods. Each subject sat at a randomly assigned and separated PC terminal and was given a copy of instructions.⁷ A set of control questions was provided to ensure the understanding of the game. If any participant answered incorrectly, the experimenter provided an oral explanation. No form of communication between subjects was allowed during the experiment.

We conducted all sessions at the LakeLab (University of Konstanz, Germany). The experiment took place between December 2008 and January 2009. One additional session was conducted in May 2009. Altogether, 225 subjects participated in nine sessions. Table 2 summarizes the number of subjects, sessions and treatments in more detail. None of the subjects participated in more than one session. Each session included exactly one treatment. Participants received a show-up fee of 2 euro (\$2.40 at that time). The experiment took about one hour and 15 minutes, average income was about 12.50 euro (\$17.50). The experiment was programmed and conducted using z-Tree (Fischbacher, 2007). We recruited participants using the online recruiting system ORSEE (Greiner, 2004). Participants were part of the LakeLab subject pool, consisting of undergraduate and graduate students of all fields of study.

⁷ A copy of translated instructions can be found in the appendix of this chapter.

3 Behavioral predictions

When all committee members are selfish, the order of bills does not affect voting behavior. In a subgame perfect equilibrium with selfish committee members, members will vote all bills down because each bill is only preferred by a minority of the committee and commitment devices for vote trading are missing. However, when some committee members expect reciprocal behavior by their counterparts they may court for reward by voting on bills preceding their own bill on the agenda. In Fischbacher and Schudy (2012) we derive the following two propositions:

Proposition 1 - The approval of the second bill and the approval of the third bill is not more likely than the approval of the first bill

Proposition 2 - The approval of the third bill is not more likely than the approval of the second bill.

To prove Proposition 1 we assumed that legislators are reciprocal and do not discriminate against specific legislators. In turn, it is a weakly dominant strategy for the agenda setter to put his preferred bill first. While it is plausible to assume no discrimination when the sequence of the bills has been assigned by a random device it will be less convincing to do so if the agenda setter determines the sequence. The agenda setting option may affect voting behavior of the agenda setter as well as voting behavior of other legislators.

On the one hand non-agenda setters may positively discriminate against the agenda setter. Two reasons may drive positive discrimination. First, the agenda setter could feel more responsible for the voting outcome and thus reward other legislators more frequently.⁸ Second, the agenda setter has more power than other legislators and thus receives a higher expected payoff. This could prevent her from compensating low income periods by exploiting other legislators. In both cases other legislators have no incentive to distrust the agenda setter but instead they should support the agenda setter's bill with a higher probability than legislators in the treatments with no agenda setter.

On the other hand, other legislators may discriminate negatively against the agenda setter because they either consider agenda setting per se as morally problematic,

⁸ The idea is related to "responsibility alleviation", which states that shifting responsibility from an outcome to an external authority reduces impulses towards generosity (see Charness, 2000).

or because they fear exploitation when the agenda setter uses her power to place her own bill first on the agenda. Legislators may thus refrain from trusting the agenda setter and therefore do not support her bill. By not providing any default order of bills we “force” the agenda setter to choose an agenda which makes a general negative perception of agenda setting is less likely. Therefore punishment may mainly occur due to the outcomes resulting from specific agendas chosen.

Punishing the agenda setter by not voting for her bill is however risky, in particular when the voting procedure is transparent. Here, legislators are accountable for punishment and the agenda setter can directly reciprocate. Legislators who do not vote for the agenda setter’s bill (when it is placed at the first position) risk not receiving help from other legislators for their own proposal.⁹ If the agenda setter places her bill first in the partial information treatment, legislators not voting for the agenda setter’s bill cannot be identified. Therefore, the rejection of the agenda setter’s bill is more likely when it is in the first position and individual voting behavior is not observed. In particular, the third beneficiary could use this option since we expect her bill to be accepted with the lowest probability. Thus, if the agenda setter puts her own bill first, we expect little difference in behavior from that of other legislators in the full information treatment. In the partial information treatment we expect that fewer third beneficiaries will support the agenda setter when she puts her bill first on the agenda.

Positioning her own bill first is a weakly dominant strategy for the agenda setter as long legislators are reciprocal and do not discriminate against specific legislators. However, when legislators discriminate negatively against the agenda setter because of distrust it may be possible for the agenda setter to reduce distrust by positioning her bill second on the agenda. If an agenda setter decides to do so, it is clearly necessary that the agenda setter accompanies this decision by support for the first bill. Consequently, we expect higher efficiency when the agenda setter puts her bill second on the agenda.

4 Results

We first show how the order of bills matters for the voting outcome. Then, we address the question of whether the agenda setter manipulates the agenda. The next subsection

⁹ Mutual support for each other’s bill by two non-agenda setters requires a lot of trust on the side of the third beneficiary. If the third beneficiary observed the first bill failing, she may distrust the second beneficiary, because the second beneficiary did not vote for the first bill.

deals with agenda setters' voting behavior and shows whether the agenda setter exploits other legislators. Further, we investigate non-agenda setters' behavior towards the agenda setter. Do they trust the agenda setter and do they reward or punish her? Finally, we discuss the optimality of the agenda setter's decisions.

4.1 The order of bills matters

We find that the earlier a bill is voted on, the higher is the probability of its approval, whether or not an agenda setter determines the order of the bills. Figure 1 illustrates individual acceptance rates of monetarily unfavorable bills across treatments. Each column represents the share of members voting for a bill that is monetarily disadvantageous to them.¹⁰ As expected, the third bill is less frequently accepted than the second bill and the second bill is less frequently accepted than the first bill.

Whether legislators vote for a bill depends on the trust and reciprocity among legislators. We will give a short overview of the overall treatment differences in reciprocal behavior. Table 3 illustrates the relative occurrence of each possible outcome (A to H) across treatments. By voting on the first bill, the committee decides between outcomes including the approval of the first bill (outcomes A to D) and outcomes excluding the first bill (outcomes E to H). Provided the first bill is passed the committee decides next between outcomes including the first and the second bill (A,B) and outcomes including the first but excluding the second bill (C,D), and so on.

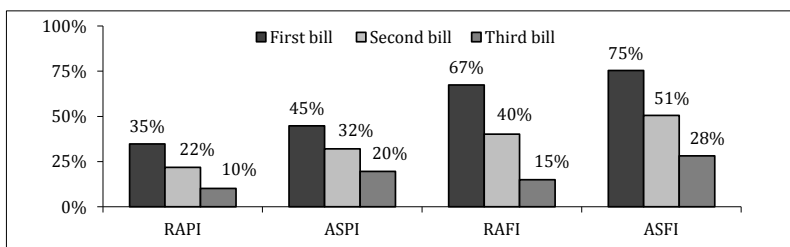


Figure 1: Shares of votes for unfavorable bills (by treatments)

Note: ASFI = Agenda Setter Full Information; ASPI= Agenda Setting, Partial Information; RAFI= Random Agenda, Full Information; RAPI= Random Agenda, Partial Information.

¹⁰ Subjects accept bills which increase their own payoff in 99 percent of the cases.

Outcome	Bills passed			<i>RAPI</i>	<i>ASPI</i>	<i>RAFI</i>	<i>ASFI</i>
	1 st	2 nd	3 rd				
A	✓	✓	✓	15	30	18	38
B	✓	✓	-	17	18	41	34
C	✓	-	✓	1	2	3	8
D	✓	-	-	24	20	28	16
E	-	✓	✓	2	1	1	1
F	-	✓	-	4	4	3	1
G	-	-	✓	1	1	0	0
H	-	-	-	36	27	5	2

Table 1: Outcomes observed across treatments (in percent)

Note: *ASFI* = Agenda Setter Full Information; *ASPI*= Agenda Setting, Partial Information; *RAFI*= Random Agenda, Full Information; *RAPI*= Random Agenda, Partial Information.

First note that, when a bill fails, legislators reject subsequent bills with a high probability. We rarely observe outcomes E to G, in which later bills are accepted, although the first bill failed. When the second bill fails, the third bill is also very unlikely to be accepted in the partial information case, as shown by the rare occurrence of outcome C. Table 3 also indicates that legislators may expect reward most frequently when the voting procedure is transparent. Outcome H, in which no bill is passed, occurs only in about 4 percent in the full information treatments (*RAFI* and *ASFI*) whereas it occurs in about 30 percent of cases in the partial information treatments (*RAPI* and *ASPI*). We conclude with a first result:

Result 1 The later a bill is voted on, the less likely it is that the bill is accepted, irrespective of agenda setting.

Table 3 also indicates that treatments differ in their degree of reciprocity. In order to make reward in full and partial information treatments comparable, we present the share of committee members accepting at least one subsequent bill when their own bill was accepted. We summarize this share in the first column of Table 4. The agenda setting option has a stronger impact on reciprocity than transparency of the voting procedure (full information vs. partial information). This result is also confirmed econometrically. In the first column of Table 5, we present a probit regression analysis for reciprocal behavior, i.e. for the probability to vote for a bill after one's own bill has been accepted. The regression reveals a significant positive effect of the agenda setting treatment and an insignificant effect of the information condition.

How do the treatments differ with respect to the trust that the subjects exhibit? To answer this question we focus on the acceptance of the first bill.¹¹ Columns 2 to 4 in Table 4 show the share of supporters of the first bill. Again, agenda setting and transparency have a positive impact on trust. However, only the latter is significant (see Table 5). Interestingly, for both, the second and third beneficiary trust is affected by transparency but not by the agenda setting option. The beneficiaries differ only in their level of trust; the second beneficiaries' level of trust is significantly higher than the third beneficiaries' level of trust. We summarize this discussion in Result 2.

Result 2 Transparency has a positive influence on trust and agenda setting has a positive influence on reciprocity.

Treatment	Reward Behavior	Trusting Behavior		
	Share of first and second beneficiaries voting for at least one subsequent bill when own bill was accepted	Share of second and third beneficiaries voting for the first bill		
		by 2 nd and 3 rd	by 2 nd	by 3 rd
RAPI	24	35	47	22
ASPI	38	45	58	31
RAFI	30	67	79	56
ASFI	44	75	86	65

Table 2: Reward and trusting behavior across treatments (shares in percent)

Note: ASFI = Agenda Setter Full Information; ASPI= Agenda Setting, Partial Information; RAFI= Random Agenda, Full Information; RAPI= Random Agenda, Partial Information.

Dependent Variable	Reward behavior	Trusting behavior		
	Vote for at least one subsequent bill	Vote for first bill		
	by first and second	by second and third	by second	by third
Full Information	0.077 (0.058)	0.323*** (0.052)	0.299*** (0.048)	0.347*** (0.086)
Agenda Setting	0.149** (0.064)	0.102 (0.119)	0.096 (0.085)	0.109 (0.177)
Full Information*	-0.017 (0.102)	-0.0108 (0.140)	-0.005 (0.109)	-0.016 (0.201)
Observations	1,235	1,800	900	900
Pseudo R-squared	0.020	0.087	0.097	0.097
#Clusters	13	13	13	13

Table 3: Reward and trusting behavior. Probit regression (marginal effects) with robust standard errors and clustering on matching groups; *** p<0.01, ** p<0.05, * p<0.1

¹¹ We focus on the first bill only, because we want to compare trust by the second and third beneficiary in the first beneficiary. We obtain similar results if when using the acceptance of all preceding bills as a measure of trust.

4.2 Choice of the agenda

According to the assumptions of non-discrimination and reciprocity it is a weakly dominant strategy for the agenda setter to put her bill first on the agenda. Indeed, this is what a majority of agenda setters do. Figure 2 shows the agenda setters' choices over time. In all matching groups the committee on average votes more frequently first on the agenda setter's bill. Committees vote in about 53 percent of the cases for the agenda setter's bill first and this share increases over time, irrespective of the partial or full information condition (see Table 6). A robust share of about one fourth of the agenda setters chose the second position, while the third position was chosen by almost no agenda setter.

Result 3 Agenda setters put their preferred bill most frequently first on the agenda. They do so irrespective of information on individual voting behavior.

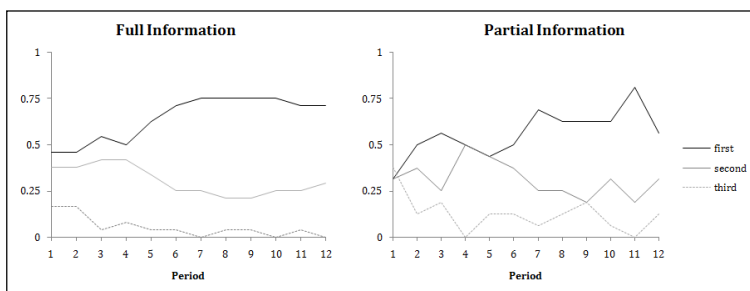


Figure 2: Position of agenda setter's bill over time

Dependent Variable:	Agenda Setter's bill is voted on first
Full Information	0.274 (0.287)
Period-12	0.066*** (0.012)
Full Information* (Period-12)	0.011 (0.021)
Constant	0.526*** (0.089)
# clusters	7
Observations	480
Pseudo R-squared	0.033

Table 4: Probability of voting on the agenda setter's bill first. Probit regression with clustering on matching groups, robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

4.3 Agenda setters' voting behavior

We first address the question of whether and how much agenda setters reward other legislators when these legislators supported the agenda setter's bill. To answer this question, we discuss direct reciprocity by agenda and non-agenda setters in the full information treatments and reciprocity with respect to the group in the partial information treatments. In the full information treatments, we compare the probability of acceptance of the second (or third) bill by beneficiaries of the first bill when the beneficiary of the second (third) bill voted for the first bill.¹² The first two rows of Table 7 show the shares of second and third bills accepted by beneficiaries of the first bill. We present agenda setters' reward behavior in the first column, non-agenda setters' reward behavior in the second column and reward behavior by beneficiaries of the first bill in the treatments without agenda setting in the third column. With full information and agenda setting, there is no difference in direct reward by agenda setters and non-agenda setters (48 percent) with respect to beneficiaries of the second bill on the agenda. Also the share of third bills accepted by agenda setters (44 percent) is only insignificantly¹³ higher than the share of third bills accepted by non-agenda setters (32 percent) and the share of third bills accepted by beneficiaries of the first bill in the

	Agenda Setting Treatments		Treatments
	by agenda setter	by non-agenda setter	without agenda setter
Full Information			
Reward for beneficiary of the second bill	48	48	39
Reward for beneficiary of the third bill	44	32	25
Partial Information			
Reward for beneficiary of the second bill	46	30	24
Reward for beneficiary of the third bill	48	13	17

Table 5: Reward by agenda and non-agenda setters preferring the 1st bill on the agenda (shares in percent)

Note: In Full Information treatments reward refers to the share of 2nd (or 3rd) bills accepted by beneficiary of the 1st bill when the beneficiary of the 2nd (or 3rd) bill voted for the 1st bill. In Partial Information treatments reward refers to the share of 2nd or 3rd bills accepted by the beneficiary of the 1st bill when 1st bill was approved by the committee.

¹² In full information treatments we observe a typical tit-for-tat behavior. Subsequent bills are mainly accepted when their beneficiary supported a preceding bill. First beneficiaries vote for the second (third) bill in only 4.8 (2.6) percent when they received no support by the second (third) beneficiary.

¹³ See Table 8 model (1) and (2).

Dependent Variable	Full Information		Partial Information	
	(1)	(2)	(3)	(4)
	Vote for second bill	Vote for third bill	Vote for second bill	Vote for third bill
Agenda setting	0.081 (0.109)	0.056 (0.106)	0.086** (0.042)	-0.023 (0.068)
by Agenda Setter	-0.011 (0.0863)	0.108 (0.097)	0.149*** (0.054)	0.334*** (0.092)
Positive experience in past periods	0.111 (0.109)	0.106 (0.163)	0.018 (0.108)	0.048 (0.077)
Observations	382	281	228	228
Pseudo R-squared	0.009	0.026	0.038	0.098

Table 6: Reward for beneficiaries of second and third bills by the beneficiary of the first bill

Probit regression, robust standard errors in parentheses (marginal effects) *** p<0.01, ** p<0.05, * p<0.1
Note: In Full Information treatments reward refers to the share of 2nd (or 3rd) bills accepted by beneficiary of the 1st bill when the beneficiary of the 2nd (or 3rd) bill voted for the 1st bill. In Partial Information treatments reward refers to the share of 2nd or 3rd bills accepted by the beneficiary of the 1st bill when 1st bill was approved by the committee.

treatments without agenda setting possibilities (25 percent). In the regression analysis (Table 8) we additionally use a measure of positive past experience as a control variable. It is simply the share of accepted own bills until the current period. However, positive experience also does not affect reward significantly. This shows that with full information the immediate experience is more important than the general positive experience. The third and fourth row of Table 7 show the shares of accepted second and third bills for the partial information treatments by beneficiaries of the first bill (when the first bill was accepted). In this situation, agenda setters support later bills significantly more frequently than non-agenda setters (46 vs. 30 percent for the second bill and 48 vs. 13 percent for the third bill) and also significantly more frequently than beneficiaries of the first bill in the partial information treatment without agenda setting (17 percent).¹⁴ Thus, we obtain Result 4.

Result 4 Agenda setters reward more frequently than non-agenda setters when voting on bills in a secret ballot.

We now turn to trusting behavior by agenda setters and other legislators. Table 9 shows the frequency of support of the first bill by agenda setters, by non-agenda setters and by subjects in the treatment without agenda setting. As expected table 9 suggests

¹⁴ See Table 8 model (3) and (4).

	Agenda Setting Treatments		Treatments without agenda setting
	by agenda setter	by non-agenda setter	
by beneficiaries of the 2nd bill			
Full Information	87	85	79
Partial Information	72	52	47
by beneficiaries of the 3rd bill			
Full Information	63	65	56
Partial Information	42	30	22

Table 7: Shares of 1st bills voted for by beneficiaries of the 2nd (3rd) bill on the agenda.

	Full Information treatments	Partial Information treatments
Dependent Variable	Vote for 1 st bill by beneficiaries of the 2 nd bill	Vote for 1 st bill by beneficiaries of the 2 nd bill
Agenda Setting	0.062** (0.030)	-0.003 (0.137)
by Agenda Setter	0.008 (0.032)	0.154 (0.160)
Positive Experience	0.241** (0.096)	0.329*** (0.121)
Observations	451	374
Pseudo R-squared	0.060	0.039

Table 8: Votes for first bill by beneficiaries of the second bill

Probit regression, robust standard errors in parentheses (marginal effects); *** p<0.01, ** p<0.05, * p<0.1; Dep. Variable: Pr(Acceptance of 1st bill by beneficiaries of the 2nd bill)

that agenda setters trust more than non-agenda setters and they trust in particular more than subjects in the condition without agenda setting. Table 10 presents a probit regression with the vote for the first bill as dependent variable. Again, we include our measure for positive experience in past periods as an explanatory variable. The regression reveals that positive experience is the driving force for trust in the first beneficiary's reciprocity. Comparing treatments with and without agenda setting we find that trust in the first beneficiary is significantly higher in the agenda setting treatments when full information on individual voting behavior is observed, indicating that second beneficiaries trust more in agenda setters. We obtain result 5.

Result 5 Trust in others' reciprocity is mainly driven by positive experiences in the past.

4.4 Reciprocity towards the agenda setter

The agenda setters are in an advantageous situation, which can make the other subjects envious. This problem occurs in particular when the agenda setter chooses the first position, which is what most agenda setters do. Apart from envy, other legislators could also fear exploitation. For this reason the agenda setters risk that their bills are accepted with lower probability than the other legislators' bills. In Table 11, we show the frequency with which the agenda setter's bill is supported when she chooses the first position. First, note that the beneficiary of the second bill supports the agenda setter

Vote by...	Beneficiary of 2 nd bill			Beneficiary of 3 rd bill		
	Agenda Setting		No agenda setting	Agenda Setting		No agenda setting
	First bill preferred by agenda setter			First bill preferred by non-agenda setter		
Full Information	87	63	79	60	76	56
N	185	16	204	185	87	204
Partial Information	54	46	47	19	48	22
N	54	76	216	86	76	216

Table 9: Votes for 1st bill by beneficiaries of 2nd or 3rd bill (shares in percent)

	Trust in first beneficiary by second beneficiary	Trust in first beneficiary by third beneficiary
Full Information	0.309*** (0.050)	0.339*** (0.061)
Agenda Setting	-0.122** (0.059)	0.218*** (0.080)
Agenda Setter is first beneficiary	0.176*** (0.024)	-0.186*** (0.041)
Positive experience	0.310*** (0.070)	0.497*** (0.076)
Observations	692	795
# Clusters (MatchingGroups)	7	6
Pseudo R-squared	0.145	0.187

Table 10: Trust in the beneficiary of the 1st bill by non-agenda setters benefitting from the 2nd and 3rd bill. Probit regression with clustering on matching groups, robust standard errors (in parentheses), *** p<0.01, ** p<0.05, * p<0.1

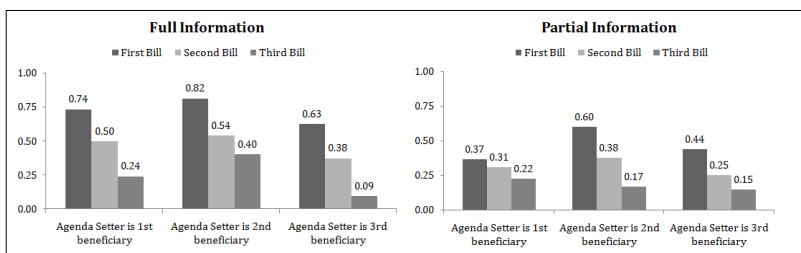


Figure 13: Approval rates according to agenda setter's position

more frequently than a non-agenda setter in the same position (as indicated before). This shows that second beneficiaries indeed expect higher reward by agenda setters. Third beneficiaries instead discriminate negatively against the agenda setter, in particular in the partial information condition where distrust is not necessarily visible. Both results are statistically significant as the regression analysis in Table 12 reveals. It shows that beneficiaries of the 3rd bill distrust, and they distrust even more in the partial information condition.

How do non-agenda setters treat the agenda setter when she does not choose the first position? Is the agenda setter additionally rewarded in this case? This would mean that the non-agenda setters accept her bill with a higher probability than if she chose the first position. Figure 3 shows the acceptance rates of the bills, conditional on the chosen position of the agenda setter. It shows that in the full information treatment, the first position yields the highest probability to pass a bill followed by the second position and the third. In the partial information treatment, the second position yields about the same probability to receive support as the first position. However, if the agenda setter chooses to put her bill second, she has to support the first bill, which results in a lower expected income. At least, as shown in Table 13, if the agenda setter chooses the second position, the highest total number of bills is passed. Consequently, average payoffs are higher in this case than when there is no agenda setter at all. We conclude with Result 6.

Result 6 Agenda setters choosing to position their bill first on the agenda are punished by those suffering from the chosen agenda. Punishment by third beneficiaries is higher in the partial information treatment but never creates a sufficiently strong threat for agenda setters to abstain from positioning their own bill first.

Let us conclude the results section with some remarks on the efficiency effects of our treatment. As Table 13 shows, transparency of the voting procedure has a positive

	Agenda Setting		No agenda setting possibility	
	Full	Partial	Full	Partial
Agenda setter is..	Information	Information	Information	Information
First Beneficiary	2.10 (0.76)	1.44 (1.25)		
Second Beneficiary	2.36 (0.80)	1.70 (0.99)		
Third Beneficiary	1.68 (0.58)	1.46 (1.16)		
Total	2.16 (0.78)	1.53 (1.17)	1.75 (0.81)	1.14 (1.06)

Table 13: Average number of bills passed according to agenda setter's position (std. dev.)

and significant impact on the number of bills accepted.¹⁵ Agenda setting also increases the number of bills accepted but the increase due to agenda setting is only significant when the agenda setter places her bill second. Agenda setters positioning their bill second give up a potential gain for themselves because it is only reasonable to place the own bill second when the agenda setter also supports the first bill. This suggests that agenda setters who position their bills second do not only intend to increase their own but also others' profits.

5 Conclusion

We conducted a three member committee voting experiment to study whether reciprocity among legislators provides additional grounds for agenda manipulation in sequential voting decisions on unrelated proposals. We hypothesized that reciprocity may on the one hand increase agenda setting possibilities through vote trading but on the other hand also reduce them, because reciprocal legislators are likely to punish manipulating agenda setters. In the experiment, a three person committee had to vote on a series of three bills using simple majority rule. We induced symmetric and publicly known preferences over the bills on the agenda. Each member only preferred one bill on the agenda. We did not allow our participants to communicate nor did we provide any commitment devices to trade votes. However, the sequential voting procedure allowed committee members to court for positive reciprocity by voting for bills detrimental to their own preferences but beneficial to a counterpart and hope for reward.

The results underline the importance of reciprocity among legislators for vote trading and agenda control. First, reciprocity enables legislators to trade votes even without commitment devices and in turn, vote trading provides additional grounds for

¹⁵ Regression with clustering on matching groups controlling for agenda setting option.

agenda manipulation. Second, agenda setters clearly take reciprocity among legislators into account when setting the agenda. Third, agenda manipulation is punished by those suffering from it, in particular when the voting procedure is secretive and fourth, agenda setters reward support by other legislators more frequently than non-agenda setters, in particular when the voting procedure is secretive. Thus, in the experiment, agenda setters not only make use of their agenda power but also take responsibility for the committee. Nevertheless, additional reward by agenda setters only weakly increased total payoffs because beneficiaries of the last bill on the agenda discriminated negatively against agenda setters. Total profits were highest when the agenda setter provided a signal and generously chose to position her bill second.

There has been a long debate about what circumstances lead an agenda to become subject to manipulation. Agenda control may allow chairmen to move the outcome of a decision making procedure in the direction of their interest (e.g. Romer and Rosenthal, 1978; Baron and Ferejohn, 1989 and Cox and McCubbins, 2005). Tsebelis and Proksch (2007) even argue it was the use of agenda control which made the success of the European Convention in producing a constitutional treaty possible. Thus, agenda setting may be considered a powerful tool in political decision making. However, agenda setting possibilities hinge crucially on the information about other committee members' preferences (see e.g. Ordeshook and Palfrey, 1988), the specific voting procedure of the decision making process (e.g. forward vs. backward agendas, see Wilson, 1986) and committee members' voting behavior (sincere versus sophisticated voting). Sophisticated voting is closely related to vote trading (see also Brams and Riker, 1973). As sophisticated voting, vote trading activities influence agenda setting possibilities by changing the number of feasible outcomes. We showed that reciprocity – through vote trading – can yield additional agenda setting possibilities. Although in our experiment agenda setters had the option to exploit other subjects, we found that discrimination against agenda setters did not suffice to prevent agenda manipulation completely. Also, agenda setters did not fully exploit their counterparts. While in the agenda setting decision, most of agenda setters behaved selfishly, in the voting decision, agenda setters partly compensated their counterparts by rewarding support more frequently than non-agenda setters.

5.1 Appendix to chapter 2: Instructions (translated from German)

We present a full translation of the instructions for the agenda setting full information treatment (ASFI). Instructions for *RAFI* are identical, except for the decision on the agenda, which was determined randomly by the computer. In the agenda setter treatments and random order treatments with partial information we modified the instructions at the relevant parts. We indicate these modifications after presenting the translated instructions for ASFI. The general information is identical in all treatments.

General information (Participant A)

Today you will take part in an economic decision making experiment. If you read the following instructions carefully, you will be able to earn money additional to your show-up fee of 2 euros. Therefore it is important that you read the instructions completely.

For the entire duration of the experiment, communication with other participants is not allowed. We therefore ask you not to talk to each other. If you have problems understanding the experiment, please have a second look at the instructions. If you still have questions, please give a raise your hand. We will come to your cubicle and answer your questions personally. During the experiment, we do not use the term euros, we use the term points. The number of points you earn in the experiment are converted into euros with the following exchange rate.

1 point = € 0.20

At the end of the experiment, you will receive the 2 euro show-up fee plus the equivalent of all points received in the experiment in cash. The following pages will explain the experiment in detail. At the end of the instructions we added some control questions to help you to understand the sequence of events. The experiment does not start until all participants solved the control questions and are completely familiar with the course of the experiment.

Summary

This experiment has 12 periods. In each period you will form a group with two randomly determined participants. At the beginning of a period each participant receives 4 points. Then you and the other two members of the group decide on three different bills. The bills affect the points of each group member. A period ends when the group has made a decision on all three bills. Then, a new period starts. You form a new group with two randomly chosen participants. Altogether you decide on three bills in 12 periods. After the final period you will see a summary table on screen showing your points earned in each period. **At the end of the experiment you receive the 2 euro show-up fee plus the euro equivalent of points earned in cash.**

The Experiment

In this experiment we will talk about three different participants, Participants A, B and C. **You are Participant A.** In each period you form a group of three members with a randomly chosen participant B and a randomly chosen participant C.

At the beginning of each period each participant receives 4 points.

There are three bills to be voted on in each period. We label them Bill A, B and C, respectively. The group decides sequentially on the three bills. If a majority (at least two members of the group) accepts a bill, it is passed.

The bills in detail: Each of the three bills yields 6 additional points for one group member but subtracts two points from each of the other two members.

Bill A: Participant A receives 6 additional Points, 2 points are subtracted from Participant B and C (each).

Bill B: Participant B receives 6 additional Points, 2 points are subtracted from Participant A and C (each).

Bill C: Participant C receives 6 additional Points, 2 points are subtracted from Participant A and B (each).

Each bill can be accepted or rejected by the group. Thus it is possible that more than one bill is accepted or rejected.

The order in which the bills are voted on is determined by participant A.

In the control treatments: [The order in which the bills are voted on is determined randomly.

The six possible sequences are:

Sequence	1st Bill	2nd Bill	3rd Bill
1	Bill A	Bill B	Bill C
2	Bill A	Bill C	Bill B
3	Bill B	Bill A	Bill C
4	Bill B	Bill C	Bill A
5	Bill C	Bill A	Bill B
6	Bill C	Bill B	Bill A

At the beginning of each period, namely before the decision on the first bill, the sequence of bills is displayed on your computer screen.]

The course of the experiment is the following:

Step 1 – Decision on the order of bills

Participant A determines the order in which the three bills will be voted on. After his decision all participants of the group see the chosen order.

Step 2 – Overview

Participants of each group see an overview of the consequences of each bill and the order of bills.

Step 3 – Voting

In this step you see the current bill and enter whether you vote for or against the current bill.

Step 4 – Result

After all participants of a group have voted on the current bill, they see the outcome of the vote for this bill. A bill is accepted when the majority of participants voted for the bill. That is, the bill is accepted when at least two participants in a group voted for it.

[You see whether a bill was accepted and who voted for or against the bill.]

Only in full information treatments

Afterwards, the group votes on the second bill, i.e. you see the next bill and decide on voting for or against it (see step 2). Then you see the outcome of the vote for the second bill (see step 3). Then you vote on the third bill and see the result.

After the vote on the third bill took place, you are again randomly matched with two participants and form a new group.

When the new period starts, no participant receives any information on your voting behavior from previous periods. Also, you do not receive any information on the voting behavior from previous periods of the new group's participants. Neither before nor after the experiment will you receive any information about your counterparts' identities. The randomly selected participants who interact with you do also not receive any information on your identity.

Payment

At the end of the experiment you will receive the 2 euro show-up plus the euro equivalent of points reached in cash.

We now present an example which will help you to understand the course of the experiment on screen in more detail. At the end of this example you will find some control questions. Please write down your answers to these questions. **Your answers to these questions will not affect the amount of money you receive at the end of the experiment.**

Course of the experiment on the computer screen– an example

Step 1 – Decision on the order of bills

First Participant A sees the following screen:

A screenshot of Step 1 (in this example):

Periode		1 von 12		Verbleibende Zeit [sec]: 0	
The following orders can be chosen					
	Bill A	Bill B	Bill C		
Participant A	6	-2	-2		
Participant B	-2	6	-2		
Participant C	-2	-2	6		
Decide now on the order of bills					
Number	First Bill	Second Bill	Third Bill		
1	A	B	C		
2	A	C	B		
3	B	A	C		
4	B	C	A		
5	C	A	B		
6	C	B	A		
Please enter the number of the order of your choice.					
		<input type="text" value="4"/>			<input type="button" value="OK"/>

Participant A chooses the order of bills by entering a number and pressing the “ok” - button. In this example we assume that participant A decides for order “4”. That is, the group votes first on bill B, then on bill C and finally on bill A.

Step 2 - Overview

After participant A’s choice all participants in the group see the following screen.

Periode		Verbleibende Zeit [sec]: 12		
	First Bill: B	Second Bill: C	Third Bill: A	
Change of points for Participant A	-2	-2	6	
Change of points for Participant B	6	-2	-2	
Change of points for Participant C	-2	6	-2	
Decision by Participant A				
Decision by Participant B				
Decision by Participant C				
Outcome of the vote				

The order of bills is:

First Bill: B
Second Bill: C
Third Bill: A

Before the voting begins each participant receives 4 points.

The first line in the table shows the [randomly] selected order of bills (in this example: 1st Bill B, 2nd Bill C and 3rd Bill A).

In control treatments without agenda setting

Below we present how each bill will change each participant's number of points if a majority accepts this bill.

In this example:

1st Bill B: Participant B receives 6 additional points, 2 points are subtracted from Participants A and C.

2nd Bill C: Participant C receives 6 additional points, 2 points are subtracted from Participants A and B.

3rd Bill A: Participant A receives 6 additional points, 2 points are subtracted from Participants B and C.

If a bill is not accepted by a majority, it does not affect the points of any participant.

Step 2 – Voting

Now bills are now voted on in the previously displayed order, In our example, first Bill B, then Bill C and finally Bill A.

Periode			
1 von 1			
	1st bill B	2nd bill C	3rd bill A
Change in payoff for Participant A	-2	-2	6
Change in payoff for Participant B	6	-2	-2
Change in payoff for Participant C	-2	6	-2
Decision by participant A			
Decision by participant B			
Decision by participant C			
Outcome of the vote			

The first bill to be voted on is: Bill B

Please vote now on the first bill. accept
 reject

You decide whether to accept/reject the current bill and click the “OK” Button. After all participants of the group have made their decision, the voting result is displayed.

Let us assume that, in our example, Participant B accepted the 1st bill, you (Participant A) and Participant C, however, rejected the 1st bill. The result is then displayed on your computer screen (Step 3).

Step 3 – Result

Periode			
1 von 1			
Result for 1st bill (Bill B)			
	1st bill B	2nd bill C	3rd bill A
Change in payoff for Participant A	-2	-2	6
Change in payoff for Participant B	6	-2	-2
Change in payoff for Participant C	-2	6	-2
Decision by participant A	no		
Decision by participant B	yes		
Decision by participant C	no		
Outcome of the vote	rejected		

Not available in partial information treatments

The table again shows the order in which the bills are voted on [and who voted for or against a bill]. In the last line you see whether a bill was accepted or rejected by the majority of the group. In our example a majority (you and participant C) voted against the first bill. Thus in this example the table shows that the 1st bill was rejected by a majority. Consequently, the points of all participants in your group are not affected. By clicking on the “continue” button you will come to the next decision.

Now voting on the second bill begins. Then you see the result of the group’s decision on screen. Let’s assume a majority of the group accepted the second bill.

Then voting on the third bill starts. You see the third bill and decide for or against it. Let’s assume for our example that again a majority accepted the third bill.

We continue with **Step 4**.

Step 4 – Result

At the end of a period you will see a summary table showing points received by you and your group members.

In the following we explain how the points received in the period of our example are calculated. Points received at the end of a period are calculated as follows:

Periode					
1 von 1					
Resulting total points for participants in your group in this period:					
	Endowment	1st bill B	2nd bill C	3rd bill A	Total
		rejected	accepted	accepted	
Points Participant A	4	0	-2	6	8
Points Participant B	4	0	-2	-2	0
Points Participant C	4	0	6	-2	8

The table displays again the order in which bills were voted on. Additionally you see in the second line whether a bill was accepted or rejected by the majority of the group. In our example the first bill was rejected, whereas the other two bills were accepted. Endowment is 4 points.

The first bill did not affect the points received by participants in this group, because it was rejected. The second bill was accepted and yields participant C 6 additional points, whereas 2 points are subtracted from participants A and B each. The third bill was accepted too in our example. It yields 6 additional points for participant A, and subtracts 2 points from each of the other two participants.

Points received at the end of the period by each participant are calculated as follows:

$$\text{Points for Participant A} = 4 + 0 - 2 + 6 = 8$$

$$\text{Points for Participant B} = 4 + 0 - 2 - 2 = 0$$

$$\text{Points for Participant C} = 4 + 0 + 6 - 2 = 8$$

After clicking the “OK” – Button, you are randomly matched into a new group.

Control questions

Please read the new example on this page and answer the control questions.

Your answers to these questions will not affect the amount of money you receive at the end of the experiment.

Example:

Periode			
1 von 1			
	1st bill B	2nd bill C	3rd bill A
Change in payoff for Participant A	-2	-2	6
Change in payoff for Participant B	6	-2	-2
Change in payoff for Participant C	-2	6	-2
Decision by participant A			
Decision by participant B			
Decision by participant C			
Outcome of the vote			

The agenda for this period is

1st bill B
2nd bill C
3rd bill A

Before voting on the three bills each participant receives 4 points.

Assume further...

You accept the 1st and 3rd bill.

Participant B accepts the 1st and 3rd bill.

Participant C accepts the 1st and 2nd bill.

Which bills are accepted by a majority of the group? _____

How many points do you receive in this period? _____

How many points does participant B receive in this period? _____

How many points does participant C receive in this period? _____

5.2 References

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