

# Votes seen and unseen: A test of a roll-call vote selection model on data from the European Parliament<sup>1</sup>

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## Abstract

Roll-call vote analysis is an increasingly popular method for evaluating decision-making in international organization. However, recent research indicates that roll-call votes may be a misleading source of information about voting behavior due to selection effects associated with the assignment of votes for roll call. Drawing a recent theoretical model (e.g., Carrubba, Gabel & Hug 2008), we evaluate whether the sample of roll-call votes in one prominent international organization's legislature—the European Parliament—are contaminated by selection effects. Using a combination of information about observed voting behavior and requesting behavior, we test several empirical implications of the model to assess whether it captures the data generating process of roll-call votes. Our results, while tentative, indicate that the theoretical model provides a reasonable account of observed voting and requesting behavior. This suggests that inferences based on roll call votes in the EP—and perhaps other international organizations that only partly make available information on votes, are fraught with considerable inferential problems.

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# 1 Introduction

Increasingly international organizations comprise bodies in which voting is the main decision making rule (e.g., the European Parliament (EP), the United Nations (UN) Security Council and its General Assembly, the International Labor Council of the International Labor Organization (ILO), etc.). Scholars have not waited long to rely on information on voting in such bodies to draw inferences of various types, from clustering of particular nations in the UN general assembly (Alker 1964, 1965), to the use of such votes to study closeness to particular member countries (e.g., Thacker 1999) and the relative influence of ideology and national origins (e.g., Hix 2002, Hix, Noury & Roland 2006*b*) on voting decisions. Many of these analyses rely on sophisticated tools to gain insights into such international bodies as the UN Security Council (Voeten 2002), the ILO's International Labor Council (Boockmann 2003), or the European parliament (Hix, Noury & Roland 2006*a*).

Unfortunately, this recent scholarship hardly pays attention to the increasing evidence that roll call votes may give us biased information, provided that these votes do not cover the whole universe of votes.<sup>3</sup> Increasing evidence from national parliaments (e.g., Roberts 2007, Chiou & Yang 2008, Hug 2009 (forthcoming)) and the European parliament (e.g., Clinton and Lapinski 2008; Gabel & Carrubba 2004, Carrubba, Gabel, Murrah, Clough, Montgomery & Schambach 2006, Thiem 2006 and 2009) suggests that roll call votes, which give us only a partial glimpse at legislative

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<sup>3</sup>Especially in international bodies this is unlikely to be the case, given the much prominent haggling behind closed doors.

voting, may lead to partial and biased inferences. The same selectivity issues is, however also present in other international voting bodies. As Boockmann (2003) reports for the ILO International Labor Council, only a subset of votes is recorded. Similarly, Peterson (2005) discusses that for some decisions in the UN no individual voting records are available.

To understand whether these different selection processes affect the inferences we wish to draw from roll call votes, theoretical guidance is required. More specifically, only if we have a theory explaining under what circumstances roll call votes are carried out, can we attempt first of all to assess whether biased inferences are likely, and second propose corrections for these inferences.

In this paper we rely on a theoretical model conceiving of roll call requests as means to discipline party members (Carrubba, Gabel & Hug 2008) and test its implications with data stemming from the European Parliament.<sup>4</sup> In these tests we find suggestive evidence in support of the theoretical model. Consequently, scholars relying on roll call data, also (or even particularly) from international bodies, need to be cautious when not having a complete record of all votes at hand.

In the rest of the paper we proceed as follows. In the next section we review the literature on voting in international bodies and the recent work on selection biases in roll call analyses. Section three briefly reviews the formal model proposed by Carrubba, Gabel & Hug (2008) and presents the main implications that will be tested empirically

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<sup>4</sup> Carrubba and Gabel (1999) and Chiou and Yang (2008) also propose and discuss models for roll call requests.

with data from one international body, namely the European parliament. We present the various datasets on which we draw in section four, before presenting the results from our empirical results. Section five concludes and sketches our future research.

## **2 Voting in supranational bodies and selection biases**

Interest in voting in supranational bodies has increased considerably over the last decades. Possible problems of selection biases, however, have only sparingly been discussed. In this section we first review briefly the work on voting in supranational bodies before turning to a brief discussion of possible selection biases in roll call analyses.

### **Voting in supranational bodies**

Early studies on voting in the UN general assembly mostly tried to assess whether patterns were detectable. Given that this early work appeared during the cold war (e.g., Alker 1964, Alker & Russett 1965, Marin-Bosch 1987, Holloway & Tomlinson 1990), bloc patterns were of greatest interest. While this early work was largely descriptive, more recent work attempts to explain the voting behavior of national delegates (e.g., Voeten 2000, Boockmann & Dreher 2006). Voeten (2002) focuses on similar issues when dealing with the UN security council. Related work attempts to link aid and IMF grants to voting in these bodies (e.g., Thacker 1999) and to assess voting in the ILO's International Labor Council (Boockmann 2003).

Much more strongly developed is work on the European Parliament (EP). Starting with the early work of Work on the Attina (1990) and Brzinski (1995) scholars were interested in the cohesion of party groups (see also McElroy 2008). Related work has employed more sophisticated tools and exploited longer periods of observation to evaluate the determinants of voting decisions (e.g., Hix, Noury & Roland 2006*a*).

### **Selection effects**

The vast majority of studies presume that roll call votes accurately reflect all voting decisions in a parliament, which is accurate in some instances, such as the contemporary US Congress (but see Clinton and Lapinski 2008 on selection problems in a historic context). However, in many parliaments only a fraction—and sometimes a very small fraction—of votes are recorded (see Hug 2005). Importantly, these samples of voting behavior are likely unrepresentative of voting behavior in general. Work on national parliaments (e.g., Roberts 2007, Chiou & Yang 2008, Hug 2009 (forthcoming)) and the European Parliament (e.g., Gabel & Carrubba 2004, Carrubba, Gabel, Murrah, Clough, Montgomery & Schambach 2006, Thiem 2006 and 2009) demonstrates that roll call votes are hardly a random subset of all votes, and thus inferential biases are quite likely. Similar selection biases in roll-call voting may be expected in other international bodies. Sturm & Dreher (2006), for instance, find that countries receiving aide from the World Bank vote more frequently in line with the G7 countries in the UN's General Assembly. If this is the case, roll call votes from the General Assembly might display similar biases, since roll call votes might be used to ensure the support of positions defended by

G7 countries. In other bodies, like the ILO's International Labor Council, similar phenomenon might occur, where instead of party disciplining we might expect disciplining of delegations from specific countries or regions.

It is important to point out that we can only speculate as to whether or how the selection of votes for roll-call might influence inferences in these setting, as extant studies fail to describe the sample properties, the frequency of roll-calls, or the selection procedure for roll-call votes. But even with the basic descriptive information about roll-call votes in an international organization, we cannot easily interpret roll-call vote behavior without theory. That is, we need to understand the process that generates the data (the roll-call votes) in order to draw appropriate inferences about roll-call voting behavior and adjust our inferences about voting behavior in general to account for the selection process. Previous studies provide very limited guidance in even positing a model of the data generation process. The literature discusses a series of possible explanations for roll-call requests (for a survey see Carrubba & Gabel 1999). For example, Fennell (1974) and Jenkins and Stewart (2003) present empirical evidence from Argentina and the United States Congress that roll-call votes are used by party leaders to enforce discipline. Alternatively, legislators might request roll-call votes to signal their position to a third party or to embarrass another set of legislators by forcing them to take an unpopular public position.<sup>5</sup>

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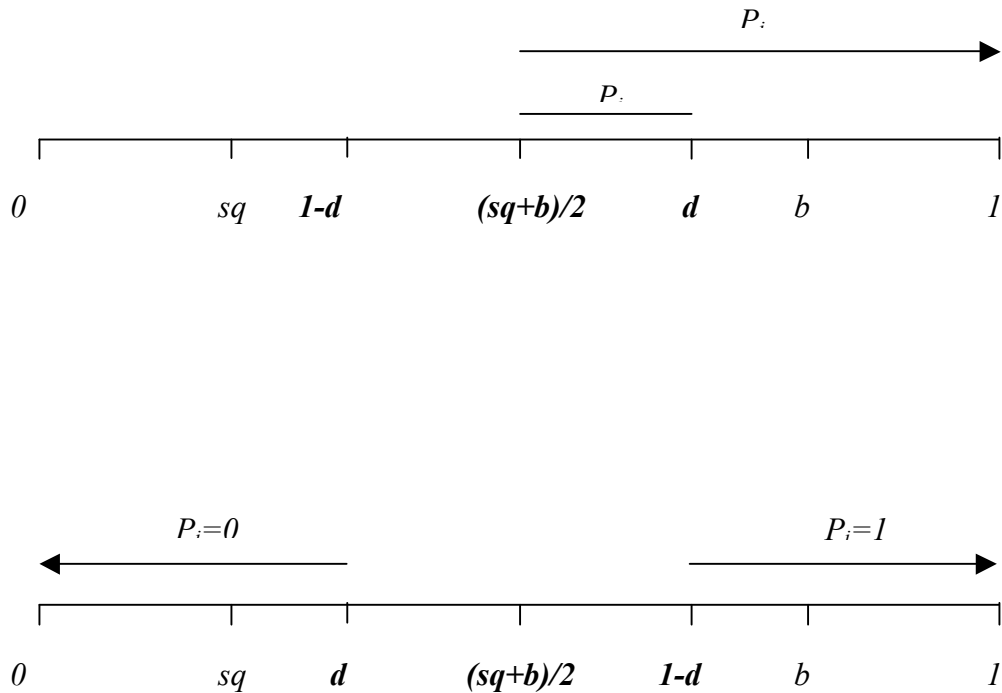
<sup>5</sup> See also Pemstein's (2009) innovative attempt to predict roll call requests based on the speeches in the plenum.

However, of these possible motivations, only one—disciplining—is the basis of a theoretical account of roll-call vote requests (Carrubba, Gabel, and Hug 2008). That model, although fairly simple in assumptions, demonstrates the value of working through a formal model, as it casts serious doubt on several common conclusions about the effect of disciplining on roll-call vote requesting behavior and its consequences for observed voting behavior. Thus, we focus our empirical efforts on testing implications of that model. We want to emphasize that we strongly support the development of alternative models of the data generation process based on the signaling motivation. But in the absence of such a model, we do not want to speculate informally on what a signaling motivation might imply in terms of tests for our empirical analysis.

### **3 Theory and theoretical implications**

Carrubba, Gabel & Hug (2008)—CGH—develop a formal theoretical model of legislative politics that assumes party leaders (or country delegates in an IO) request roll call votes for disciplining purposes. The setup is a rather simple spatial one with two party groups located at two points of a one-dimensional policy space. These locations correspond to the party leaders' ideal points. Uniformly distributed around these ideal points with dispersion  $d$  are the ideal points of the members of these party groups (see Figure 1).

**Figure 1**



Given Euclidean preferences, the locations of the status quo and the proposed bill determine the share of MPs (denoted  $P$  in figure 1) of each party ( $i$  and  $j$  located at 1 and 0, respectively) that will vote in favor of the bill. By requesting a roll call vote and adopting disciplining measures, this share of MPs supporting the bill can be increased by party leadership. The sequence of moves is as follows:

1. Party  $i$  makes a proposal,  $b$ .
2. Both parties choose simultaneously whether to call a RCV.
3. If either party requests a RCV, each sets some level of disciplining.
4. Outcomes are realized.



CGH solve this game for its subgame-perfect equilibria and derive a series of observations and implications. Four observations give detailed information on the relationship between bill location and roll call requests, while four implications focus more specifically on the effect of bill location and roll-call request on the relative cohesiveness of parties. Below, we state a series of hypotheses based on a subset of these observations and implications for which we have some empirical data allowing for initial tests. We compare these hypotheses also with the more or less explicitly stated hypotheses in other studies on roll call votes in the European parliament. This will highlight that our derived hypotheses sometimes rejoin those of other authors but almost systematically introduce additional complexities.

#### A. Patterns of observed party cohesion on roll-call votes

CGH derive a variety of predictions about patterns of party cohesion on observed (roll-call) votes. Most of these depend on vote-specific information regarding the position of the status quo, the location of the proposal, or the level of homogeneity in the policy preferences of legislators. However, the equilibrium cohesion scores showsome general patterns that are independent of these factors. Specifically, the equilibrium cohesion scores in figures 3 and 4 (CGH: 560-563) support the following hypothesis:

H1: The cohesion level of the non-proposing party on roll-call votes requested by the proposing party is not lower than when that non-proposing party requests the roll-call vote.

Compared to other work on roll call votes in the EP, table 1 shows that this hypothesis finds no parallel.

**Table 1. Hypotheses on the cohesion of parties as a function of the proposing party**

H1: Rcv request by proposing party	Carrubba, Gabel, Hug (2008, 560-563)	Thiem (2009)	Kreppel (2002)	Hix, Noury, Roland (2006)
Observed cohesion of non-proposing party	>=	0	0	0

B. Roll-call vote requesting behavior

CGH predict several patterns in roll-call requesting behavior as a function of the size (number of legislators) of the party proposing legislation and the level of heterogeneity in the preferences of legislators—i.e., the level of overlap between members of parties near the median legislator. Based on the discussion regarding observations 2 and 3 (CGH: 557-559), we derive two hypotheses:

H2: For a given level of heterogeneity of legislator preferences, the likelihood of a roll-call vote request from the non-proposing party decreases with the size of the proposing party.

H3: The likelihood the proposing party requests a roll-call is a function of both heterogeneity and the size of the proposing party. As size increases and heterogeneity decreases, the likelihood the proposing requests a roll-call vote increases.<sup>6</sup>

If we compare these two hypotheses with similar ones in the literature (table 2 and 3) we find that ours is more specific.

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<sup>6</sup> More specifically, this hypothesis holds when there are no instances of extremely high heterogeneity and when the status quo is fairly far from the ideal point of the proposing party. This last condition seems reasonable to assume, since we would expect that a party’s incentive to propose a change to a status quo policy increases with the distance between the status quo and the party’s ideal point.

**Table 2. Hypotheses on the size of the party and roll call requests**

H2/H3: Size of party	Carrubba, Gabel, Hug (2008: 557-559)	Thiem (2009: 141)	Kreppel (2002)	Hix, Noury, Roland (2006)
Rcv request by non-proposing party	- (size of proposing party)	- (size of non proposing party)	0	0
Rcv request by proposing party	+ (size of proposing party)	- (size of proposing party)	0	0

**Table 3. Hypotheses on the heterogeneity of parties and roll call requests**

H3: Heterogeneity of party	Carrubba, Gabel, Hug (2008: 557-559)	Thiem (2009, 140)	Kreppel (2002)	Hix, Noury, Roland (2006)
Rcv request by proposing party	- (heterogeneity of proposing party)	- ( heterogeneity of proposing party)	- ( heterogeneity of proposing party)	0
Rcv request by non-proposing party	0	- ( heterogeneity of non-proposing party)	- ( heterogeneity of non-proposing party)	0

## 4 Testing the Model in the European Parliament

We test these hypotheses with data from the European Parliament (EP). The EP has a variety of advantages for these tests. For one, we have an unusually rich supply of secondary data. In addition, legislative politics in the EP is widely studied, providing a comprehensive understanding of legislative procedures, legislative parties, and the roll-call vote requesting process.

The CGH model—and the hypotheses we derive from it—makes several important assumptions about the legislative context that we consider plausible depictions of EP legislative politics. Below, we provide a general description of the EP and the data we will employ. But we first want to highlight several key features of the CGH model that we will examine as to their compatibility with legislative politics in the EP. First, the hypotheses we test assume that the legislative agenda is endogenously defined—i.e., the location of the legislative proposal is a function of the distribution of legislator preferences and the potential for a roll-call vote. Second, all parties are eligible to request a roll call on any vote. Third, roll-call votes are requested so as to facilitate disciplining party members so as to achieve legislative policy goals. Fourth, the model assumes only two parties.

As we discuss below, the EP context and our data reasonably approximates these features. However, formal theoretical models, by design, are abstract representations of the empirical world, which means we never have perfect empirical tests. The EP is no different with respect to the CGH model. Thus, we are careful below to raise concerns about why or how the model may fail to account for observed behavior in the EP.

The EP currently consists of 785 members, elected in national elections every five years. Once elected, national party delegations form coalitions called party groups. The party groups manage the internal organization of the legislature: e.g., assign committee membership, allocate speaking time, and distribute legislative resources. A great deal of empirical research has assessed the role of the party groups in organizing voting behavior. Hix, Noury & Roland (2006a), which provides the most

comprehensive and rigorous examination of EP voting behavior, conclude that party groups have a strong influences on their members' votes and that this influence trumps national influences and, even in some high-profile cases, national party pressures. In short, party group discipline is strong (Hix 2002).

The EP votes on legislative initiatives and related amendments. All legislative proposals are initiated by the Commission, which is an independent European Union (EU) institution. The EP also votes frequently on resolutions and amendments to resolutions that are initiated in the EP by party groups, committees, and legislators. Resolutions are not legally binding and may address issues that are beyond the authority of the EU.

Voting in the European Parliament is by one of four methods: voice, show of hands, electronic, and roll-call. The voting behavior of members is recorded only for roll-call votes. A vote can be designated as a roll call by a party group or at the request of thirty-two members. Party groups are far and away the most common source of these requests. Roll-call votes are not a random sample of all votes in the EP. Roll calls constitute about a third of all votes, and a much smaller portion of legislative votes. More specifically, Carrubba, Gabel, Murrah, Clough, Montgomery & Schambach (2006) documents the sample properties of roll-call votes in the 1999-2000 legislative session and shows that roll-call votes diverge from the population of votes in terms of issue area and legislative procedure.

Returning to the three key features of the legislative context in the CGH model, the EP is generally compatible. First, the agenda for legislation is endogenous. This is

most obvious on resolutions, amendments on resolutions, and amendments to legislation, since these are all proposed by members of the EP. In contrast, legislative initiatives originate in the Commission. However, it seems reasonable to assume that the Commission is interested in the success of legislation and therefore makes proposals in anticipation of voting behavior in the EP. That is, these proposals ought to be endogenous to the preferences of the members of the EP and the likelihood of roll-call votes and the related party disciplining. Also, it is important to note that the Commission consists of Commissioners with clear national party affiliations and these national parties have representation in the party groups, which links the Commissioners to party groups. However, to the extent this is not true, tests of the model with legislative votes will likely falsify the hypotheses. Second, consistent with the model, all party groups can request roll-call votes. Third, the party group leaders, who are the typical source of roll-call vote requests, can use the roll call to discipline their members.

The extent to which discipline is the primary motivation for requests is a matter of some debate. First of all, one might question the power of party group leaders to discipline their members. Even in the larger party groups with organized party institutions, leaders lack some important tools that national parties often wield in disciplining their members in national legislatures. In particular, party group leaders do not control whether their members are nominated for re-election. While this limitation certainly reduces the power of party group leaders relative to national party leaders, we maintain that party group leaders retain sufficient powers to induce members to vote the party group line. For one, discipline may simply involve the enforcement of an agreed

vote trade among party group members. Developing such an agreement and monitoring its success are costly to leaders, but may not require substantial carrots or sticks. In addition, party group leaders influence the allocation of most of the perks of office in the EP and access to prized committee positions, which are of value to MEPs (Bowler & Farrell 1995). Indeed, McElroy (2008) shows that members who do not vote the party line may suffer in their committee assignments as a result. For sure, national delegation leaders in party groups also play a significant role in the allocation of these perks of office. But we consider the assumption that party group leaders can discipline their members as plausible, at least for the larger party groups with organizational capacity.

Secondly, even if one assumes party group leaders can discipline, one might question whether PG leaders use roll-call votes for disciplining designed to pass legislation rather than to pursue other goals. This is probably most apparent on resolutions. Resolutions can serve a variety of purposes, ranging from lobbying the Commission to initiate legislation in a particular policy area to taking a symbolic stand on a current event. Resolutions targeted at the Commission's legislative agenda probably resemble legislative votes where party groups are motivated to demonstrate majority support. But other types of resolutions may not have this character. To the extent this is true, votes on resolutions will be a difficult venue to test the implications of the CGH model.

Finally, the EP consists of more than two parties. CGH (568) address this issue and argue that the intuition of the model used to justify the above hypotheses should carry over to the multi-party context.

In sum, we consider the EP as a plausible—but challenging—venue in which to test the aforementioned implications of the CGH model. To the extent the EP deviates from the key features of the model, we expect the data to support the null hypothesis that our hypothesized relationships do not hold.

#### Test of Hypothesis 1

To test hypothesis 1, we need information about the cohesion of party groups and the identity of the proposing party group and the identity of the requesting party group. We focus on the fifth EP (1999-2004). Hix, Noury & Roland (2006a) have assembled a database of all roll-call votes from this legislature and provide sufficient information to identify the rapporteur and requesting party group for many of the votes. We can also calculate the cohesion scores for each party group on each vote. We use the same method of calculating cohesion as that used in Hix, Noury & Roland (2006a). This measure ranges from zero to one (highest cohesion).

It is important to note that party groups do not make proposals for amendments or resolutions. Instead, proposals come from committees and each proposal has a “rapporteur” who is responsible for drafting the committee report for the plenary session. The rapporteur exercises unusual influence over the content of the proposal



(Ringe 2005). We therefore use the party group of the rapporteur as a proxy for the party group of the proposal.

From these data, we focus only on roll-call votes on final votes on resolutions. The dataset does not provide consistent information about the proposer of amendments on resolutions. And, we have not yet coded the party group affiliated with legislative proposals (for a coding strategy to do this, see discussion below regarding hypotheses 2 and 3). It is important to note, though, that the majority or roll-call votes were on resolutions, not legislative votes. So, we do not anticipate a major change in the statistical evidence due to the addition of legislative votes.

We focus here on the three largest party groups, the EPP (Christian Democrats), PES (Socialists), and ELDR (Liberals), which accounted for almost  $\frac{3}{4}$  of the MEPs in the fifth parliament (626 MEPs). In the future, we plan to extend the analysis to all party groups. But the leaders of these three party groups, because of their party groups' size, organizational capacity, and ideological location (relatively centrist), are the most likely leaders to be in a position to use roll-call votes to discipline their members to affect legislative outcomes.

Table 5 reports the cohesion scores of these party groups under the two conditions defined by hypothesis 1:

*Condition A:* the party group neither proposed the resolution nor requested the roll-call vote and the same other party group both proposed the resolution and requested the roll-call vote.

*Condition B:* the party group did not propose the resolution but did request the roll-call vote on that resolution.

The hypothesis is that a party group’s cohesion under condition A will not be less than that party group’s cohesion under condition B. Thus, the key statistical tests are whether the difference is in the expected direction ( $\geq 0$ ) and whether the null hypothesis that the difference is less than zero can be rejected. Table 5 reports the difference in cohesion scores under these two conditions and the p-value for the test of the null hypothesis. For these three party groups, the difference is positive, which is consistent with expectations. And, for two of the three party groups, we can reject the null hypothesis that this difference is less than zero at the .07 level or lower. Thus, this preliminary evidence is broadly consistent with theoretical expectations.

**Table 5. Cohesion Scores for the non-proposing PG when the proposing PG requests the roll-call vote and when the non-proposing PG requests the roll-call vote**

Party Group (# of MEPs)	Average Cohesion (standard deviation)		Difference [A-B] (95 % confidence interval)	Pr[A-B < 0] (p-value)
	Condition A	Condition B		
PES (214)	0.948 (.093)	0.889 (.163)	0.059 (0.014-.104)	0.01
EPP (202)	0.887 (.137)	0.865 (.160)	0.022 (-.009-0.057)	0.07
ELDR (42)	0.910 (.101)	0.897 (.113)	0.013 (-.015-.041)	0.18

### Tests of Hypotheses 2 and 3

For tests of hypotheses 2 and 3, we turn to a different dataset. These hypotheses pertain the propensity of party groups to request roll-call votes. We employ the dataset assembled by Carrubba, Gabel, Murrah, Clough, Montgomery and Schambach (2006)

that covers all votes the 1999-2000 parliamentary year (July to June).<sup>7</sup> Unfortunately, the dataset does not include information about the proposing party group, the level of intra-party heterogeneity on each vote, or the size of the PGs.<sup>8</sup> One indication of the partisan source of legislative votes is the identity of the Commissioner of the Directorate General with authority over the policy area of the vote. We identified the policy area of each final vote on a legislative initiative from the Commission by the committee to which the proposal was assigned in the EP. The committee information was available in the Carrubba, et al (2006) dataset. We then connected that policy area with the identity of the responsible Commissioner's national party, based on the composition of the Commission during the parliamentary year 1999-2000. The party group that included that national party was then designated as the proposing party group. We could only apply this method to votes on legislative proposals, not to votes on amendments or on resolutions. Thus, we will only analyze requesting behavior on legislative proposals. To measure PG size, we used the number of MEPs from that PG in the 1999-2000 EP as the size of each PG.

We measure heterogeneity by estimating the difference in the position of the proposing party group and the opposing major party group based on its ideological position (e.g., if the PES is the proposing party group position on a left-right issue, we

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<sup>7</sup> A similar dataset for a different time period was assembled by Thiem (2006 and 2009).

<sup>8</sup> In principle, one could match these votes with the identity of the rapporteur, which is available in the minutes of the EP (and, to a more limited extent, the Hix, Noury, Roland 2006a dataset). We intend to pursue that strategy in subsequent analyses.

identified the PPE as the major opposing party group). The basic strategy is to capture the likelihood of overlap in the preferences of the proposing party group's MEPs and those of a neighboring party group whose members are nearest the median on the opposite side (see CGH, pages 548-9 for further discussion).

To identify the positions of the party groups, we use the committee assigned the legislative proposal as an indication of the policy area. We then match that EP committee with the most appropriate issue area provided in the expert survey of policy positions of national parties in the Chapel Hill Party Dataset (Edwards, et al 2005), which involved national expert surveys in 1999 and 2002. Appendix 1 provides a table describing how committees and survey questions were matched. We then averaged the national party positions for all national delegations to a party group to determine the party group position on that issue. In estimating the mean PG position, we weighted the national party delegations within each party group by their share of the party group seats. This measure of heterogeneity ranged from 0 to 3.69, with a mean of 0.99 and a standard deviation of 1.27.

Returning to hypothesis 2, recall that we expect the size of the proposing party to be negatively related to the probability the non-proposing party requests a roll-call vote, controlling for the level of heterogeneity. The model provides no specific expectations regarding the independent effect of heterogeneity. Table 7 presents the results from a probit model that tests this hypothesis. The dependent variable is a dummy variable coded one if the non-proposing party requested a roll-call vote on the legislative proposal. The results are consistent with the hypothesis. The coefficient on party group

size is negative and statistically significant. The substantive effect of party group size is relatively large. For a non-proposing party group of average size (106), the probability that party requests a roll-call is 0.06. But if the non-proposing party group size increases by one standard deviation to 206, the probability that party requests a roll call rises to 0.10.

**Table 7. Probit model of non-proposing party group requests for roll call**

	Parameter Estimate	Robust Standard Error
Proposing PG Size	-0.027*	0.001
Heterogeneity	0.135	0.828
Constant	-1.160	0.234
N		324

\*significant at .013 level

Table 8 presents the results of a probit analysis of hypothesis 3. Recall that, for the proposing party group, we expect the likelihood that it requests a roll-call vote to increase as a function of heterogeneity and its size. Specifically, the probability of a roll-call vote increases as heterogeneity decreases and size increases. The probit model in Table 8 includes an interaction term combining the proposing party group’s size and heterogeneity and main effects for both variables. Note that we have centered these variables (adjusted them so that their mean is zero), which facilitates interpretation of the interaction effect. The dependent variable is a dummy variable, coded one if the proposing party group requested a roll-call vote on the legislative initiative.

We report the conditional coefficients—e.g., the coefficient related to a change in party group size, conditional on heterogeneity—to help with interpretation of statistical significance. The results are in the expected direction for the size of the

proposing party and for the interaction effect. The effect of heterogeneity (main effect) is in the expected direction, but does not attain statistical significance. At the mean levels of party group size and of heterogeneity (zero, since the variable is centered for this analysis), the likelihood of the proposing party requesting a roll-call vote is .01. Holding heterogeneity constant at its mean, a one standard deviation increase in party group size (100) is associated with a probability of a roll-call request from the proposing party of 0.10. If we do the same exercise for different levels of heterogeneity, we observe the expected change in the magnitude of this effect. For example, if we assume a 1.27 point (one standard deviation) decrease in heterogeneity, then a change from the mean party group size to a 100 member larger party group is associated with a change from 0.02 to 0.22 probability of the proposing party requesting a roll-call. This is a large substantive effect on the likelihood of a roll-call.

**Table 8. Probit model of proposing party group request for roll call**

	Parameter Estimate	Robust Standard Error
Proposing PG Size (centered)	0.013**	0.004
Heterogeneity (centered)	-0.031	0.266
Size (centered)*Hetero (centered)	-0.0036*	0.0017
Constant	-2.417	0.442
N		324
Conditional Coefficient (Size)	0.0077**	0.006
Conditional Coefficient (Hetero)	-0.035	0.265

\* significant at .05 level; \*\* significant at .01 level

## 5 Conclusion

The empirical results, though tentative, have several interesting implications for the study of legislating in international organizations, generally, and the European

Parliament, specifically. Our general argument is that voting behavior in international organizations is often only observable through roll-call votes and this sample of votes is likely to provide a misleading view of voting behavior in general. To understand how the roll-call vote sample relates to the population of votes, we need an appropriate theory. This paper attempted the first empirical tests of a formal theory of roll-call vote requesting behavior by examining data from the European Parliament. The preliminary results suggest that the theory provides a reasonable account of several aspects of legislative behavior and may therefore be a valuable guide to correcting inference drawn from roll-call votes in various settings. Of course, whether this model applies to other international legislative or deliberative bodies depends on the details of voting in those bodies. And, unfortunately, the rapid increase in available data about roll-call votes in these chambers has not been accompanied by an equal effort to collect information about the process of roll-call vote selection or its sampling properties. But we hope this study is sufficiently encouraging about the prospects of understanding the roll-call vote requesting process that scholars will collect the relevant information to properly study voting behavior in international organizations.

For the study of the European Parliament, the analysis suggests several important lessons. First, we provide evidence from one theoretical account of the process by which roll-call votes are selected. The evidence, while far from conclusive, is consistent with expectations from the CGH model. And, it is generally inconsistent with a signaling motivation. We should be cautious (as noted earlier) in what a signaling account might predict, but it seems unlikely that party leaders interested in

selecting roll-call votes to highlight their own high cohesion or embarrass another party group by revealing its low cohesion would generate the results presented in Table 5. In that analysis, the non-proposing party groups demonstrated high cohesion when they did not request the roll-call votes (condition A) and showed lower cohesion when they did (condition B). Similarly, it would be hard to tell a story about how group size relates to signaling motivations that would predict opposite effects for size on the requesting behavior of the proposing and the non-proposing party groups (tables 6 and 7).

In addition, our results provide some insight into the likely bias in cohesion scores due to roll-call vote requests in the EP. Based on the equilibrium cohesion scores presented in CGH (figures 3a-4d), one can compare the level of cohesion for proposing and non-proposing party groups on votes roll-called not roll-called. Thus, one can assess the selection bias. In the model, the cohesion scores vary depending on the size of the proposing party group, the position of the status quo relative to the proposing party group, and the level of heterogeneity. Thus, comparisons are complicated because one needs to assume certain characteristics of these variables. But the general point is that, for relatively similar votes on these characteristics, the non-roll call votes almost always demonstrate lower cohesion than those revealed in roll-call votes.

Finally, our analysis is preliminary, and a great deal more work can be done to test these hypotheses and others generated by the CGH model. We intend to expand these tests to include a greater number of votes in the EP, to consider different measures of heterogeneity and policy area, and to expand the collection of information about non-roll call votes beyond the 1999-2000 parliament.



**Appendix 1: Matching of EP Committee Policy Areas with Policy Areas in the Chapel Hill Party Data Set**

EP Committee	Chapel Hill Elite Survey Question
Agriculture and Rural Development	Agricultural Spending
Budget Control	Left-Right Economic
Budgets	Left-Right Economic
Citizens' Freedoms and Rights, Justice and Home Affairs	GALTAN
Culture, Youth, Education, the Media and Sport	GALTAN
Constitutional Affairs	Strengthen EP
Development and Cooperation	EU Foreign/Security
Economic and Monetary Affairs	Left-Right Economic
Employment and Social Affairs	L-R General
Environment, Public Health and Consumer Policy	GALTAN
Fisheries	Internal Market
Foreign Affairs, Human Rights, Common Security, and Industry, External Trade, R & D	EU Foreign/Security Left-Right Economic
Legal Affairs and Internal Market	Internal Market
Regional Policy, Transport, and Tourism	Cohesion Policy
Women's Rights and Equal Opportunities	GALTAN

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