Bargaining in the European Union and Shifts in Actors' Policy Positions

Javier Arregui, Frans Stokman and Robert Thomson

European Union Politics 2004 5: 47
DOI: 10.1177/1465116504040445

European Union Politics
DOI: 10.1177/1465116504040445
Volume 5 (1): 47–72

SAGE Publications
London, Thousand Oaks CA,
New Delhi

Bargaining in the European Union and Shifts in Actors' Policy Positions

Javier Arregui
University of Groningen, The Netherlands

Frans Stokman
University of Groningen, The Netherlands

Robert Thomson
The RAND Corporation, The Netherlands

ABSTRACT

Although shifts in policy positions are a fundamental feature of the European Union (EU) bargaining process they have not yet been studied systematically. This article provides evidence on the extent to which position shifts occur and tests alternative models of the bargaining process that predict such shifts. We examine a subset of the DEU data set that contains information on shifts in actors' positions on issues raised by 28 Commission proposals. The three bargaining models presented here posit alternative mechanisms that drive actors' position shifts during the EU bargaining process. Our research shows that position shifts occur frequently during the EU bargaining process and these shifts in actors' policy positions are best understood in terms of compromise and exchange among actors.

KEY WORDS

- bargaining models
- Council of Ministers
- decision-making
- legislative politics
- policy positions

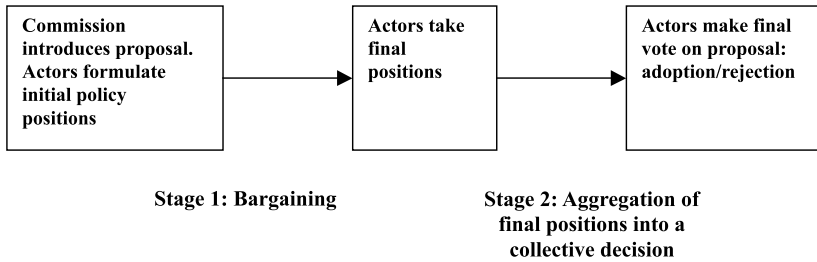


Figure 1 The two-stage decision-making process in the EU.

Introduction

Scharpf (1988) observes that EU decision-making has a distinct *bargaining style*, and Peterson and Bomberg (1999) point out that 'most EU decisions are preceded by bargaining'. We agree that bargaining is central to reaching agreement in the EU. The explanatory models of decision-making applied in this article are based on conceptions of political bargaining. Interactions between stakeholders during the course of bargaining result in shifts in their positions on controversial issues. During the bargaining process, stakeholders change their initial positions into the positions they endorse in the final voting stage.

In this article we examine the shifts of EU stakeholders' policy positions before the adoption of legislation. We investigate the extent to which these shifts can be forecasted by a class of bargaining models.[1] The models contain alternative propositions concerning the mechanisms that produce shifts in the actors' policy positions. Given this focus, our analyses can best be described as actor- or micro-level analyses. The interactions we model take place before the formal adoption of the proposal, which may consist of a formal vote in the Council, or the final outcome in which the Commission, Council and European Parliament (EP) are involved. This final stage involves the aggregation of the final bargaining positions into a collective decision (see Figure 1). On the basis of the accuracy of the models' forecasts of position shifts, we intend to make inferences about the type of bargaining that takes place during the stage of negotiation preceding that formal adoption.

Figure 1 shows the two main stages that come about during decision-making processes in general and in the EU in particular: the bargaining or influence process and the final voting stage. Each stage has its own dynamics (Stokman and Van den Bos, 1992). The bargaining or influence process is driven by individual-level behaviour, whereby each actor aims to build a

coalition around its own position. During the bargaining stage, procedural rules, for example on the number of votes held by the actors, play a conditioning role but do not determine the process. Procedural rules condition actors' evaluations of other stakeholders, whether or not it is important to obtain the support of these other stakeholders for their own coalitions. Interaction between EU stakeholders takes a different form during the second stage, where the actors' final positions are aggregated into collective decisions in the form of EU law.

Although shifts in actors' positions during bargaining seem to be a fundamental part of the EU decision-making process, they have not yet been studied in any systematic fashion. The first aim of this article is, therefore, to identify the shifts in the positions of the member states, the European Commission and the European Parliament between the time of the introduction of a Commission proposal and the adoption of the legislative act. The actors' positions on specific controversial issues in 28 Commission proposals are examined. For each controversial issue in these proposals, a one-dimensional policy scale is defined on which the positions of all actors and the decision outcome can be located. On each issue we collected the actors' positions just after the introduction of the proposal (their initially most favoured positions, or initial positions in short) and just before the adoption of the legislative act, after the bargaining process had taken place (their final positions). These data allow us to estimate whether position shifts occur, and how often and how large such shifts are.

The second aim of the article is to forecast these shifts in positions using two bargaining models: the exchange model (Stokman and Van Oosten, 1994) and the challenge model (Bueno de Mesquita, 1994). These models contain alternative mechanisms that drive actors' position shifts during the bargaining process. The exchange model assumes that shifts in positions are the result of binding bilateral deals between pairs of actors over pairs of issues. These deals produce gains for the two actors concerned. As a result of these exchange deals, actors not directly involved in the exchange may be better or worse off; these gains or losses are referred to as positive or negative externalities. Position shifts in the challenge model are also due to bilateral deals and threats, but they are not binding and actors feel free to disregard them when they see better opportunities.

Although *micro*-level shifts in actors' positions are at the core of each model, the models have until now been tested only at the collective level, by comparing the decision outcomes predicted by each model with actual outcomes (Bueno de Mesquita and Stokman, 1994; Berveling, 1994; Payne, 1999; Rojer, 1999). In a previous application, the models were also applied to decision-making in the Council (Bueno de Mesquita and Stokman, 1994).

However, that study also focused on the predictions of the models at the macro level – the accuracy of the predicted outcomes on controversial issues. The present article differs from the earlier Bueno de Mesquita and Stokman study in its focus on the predictions of the models at the micro level – the accuracy of the predicted voting positions at the end of the bargaining process. Moreover, we include the European Commission and the European Parliament in our analysis and have a much larger number of issues at our disposal. On these issues, we have empirical data, not only of initial positions, but also of actual positions just before the common position. This enables us to compare the model predictions of voting positions with the actual positions just before the adoption of the legislative proposals.

In the next section we describe the bargaining models to be tested, as well as the baseline predictions. Much of the research design has already been described in the introduction to this issue by Stokman and Thomson; the third section will discuss particular aspects of the research design that are specifically relevant for this article. We then provide a short case study on the production and sale of tobacco products, illustrating the main arguments and mechanisms behind shifts in policy positions. This section also illustrates the extent to which the alternative predictions match the actual shifts in policy positions. After examining the prevalence of actual position shifts in all proposals in our data set and testing the model predictions against the final positions, we summarize the findings of the analyses and formulate the main conclusions.

The models

In this section we briefly describe how the exchange and challenge models predict shifts in the positions of stakeholders. We compare the fit of the model predictions with two other predictions: first, with a null model in which we assume that *none* of the actors shift their initial position; second, with a model in which we assume that *all* actors shift their position to one compromise position. That compromise position is a weighted mean, and under certain assumptions this approximates a cooperative Nash bargaining solution (Achen, forthcoming a). This solution was introduced in previous studies as the compromise solution (Van den Bos, 1991) or the compromise model (Bueno de Mesquita and Stokman, 1994).

The exchange and challenge models differ from other models applied in the context of the EU in their emphasis on the bargaining process. The complex procedural rules in the EU have provided an impetus to this area of modelling, but they are not directly relevant in the present context. Some

other studies on the EU focus on the interactions between bargaining processes at the national and European level. For example, Schneider and Cederman (1994) and Hug and König (2002) focus on the constraints that affect the bargaining outcomes of intergovernmental negotiations, and König and Hug (2000) examine the ratification of decisions in the parliamentary setting. Such studies typically apply two-level games. In the present study, however, we focus on the decision-making process at the European level, not on the interactions of that process with decision-making processes at the national level. We are unaware of other game-theoretical models that model shifts in actors' positions resulting from the interaction processes among them. Other bargaining models, such as extensions of the Rubinstein sequential bargaining model (Baron and Ferejohn, 1989; Merlo and Wilson, 1995), are therefore not applicable in our case. The same holds for extensions of Coleman's exchange model in which actors exchange resources (König, 1997). Thus, although we examine the same process as these models, we focus on actions and responses that take place in one particular phase of the negotiations.

As the models applied in these analyses have been described extensively in the literature (see particularly Bueno de Mesquita and Stokman, 1994), we describe them here only briefly. Both models require that one or more unidimensional issues, on which the positions of all actors and the actual outcome can be located, represent the decision situation. Actors are assumed to have single-peaked preference functions: their utility loss associated with a particular outcome is a function of the distance between their initial position and the decision outcome on the issue dimension. Actors have different capabilities to exert influence in the bargaining process and attach different levels of salience to the issues. In all models, salience determines the fraction of capabilities the actors mobilize.

We first briefly describe the baseline or *null* model, the initial position prediction. Subsequently, we introduce the compromise position to which all stakeholders converge under the compromise model. We then introduce the position shifts under the challenge and exchange models.

The null model: The initial position prediction

As the name suggests, the initial position prediction simply assumes that actors do not shift their initial positions. This implies that any bargaining that might take place never has an observable effect on shifts in the positions taken by actors. The error of this prediction is, therefore, equal to the sizes of the actual shifts that occur. The error of the initial position prediction informs us about the extent to which the bargaining process in the EU results in position

shifts. Thus, the initial position prediction will be used in the analysis as the null model hypothesis.

The compromise prediction

The compromise model was devised by Van den Bos (1991) as a straightforward way of predicting the outcomes of decision-making in the European Community. The prediction of this model is simply the mean of the initial positions of the actors, weighted by the product of the actors' capabilities and the levels of salience they attach to the issue. This outcome is one that 'takes all positions of member states into account, weighting these by the resources a member state can apply during the negotiation and the importance each attaches to the decision at hand' (Van den Bos, 1991: 176). Achen (forthcoming a) shows that the predicted outcome of the compromise model is a first-order approximation of the *n*-person Nash bargaining solution, when disagreement among stakeholders is far less desirable than any other alternative. The compromise solution then approximates an outcome that optimally weights the different interests of *all* actors involved.

The compromise model does not contain propositions about the actor-level behaviour that leads to this solution to the bargaining problem. However, supposing that compromise is imperative in the European Union, it seems plausible to explore the possibility that the actors' positions converge to this policy alternative. The model will be used in this way in the analysis for comparison with the challenge and exchange models. With the compromise prediction, we assume that all actors shift their initial positions to one compromise position – the mean average of the stakeholders' positions, weighted by the capabilities of the stakeholders times the salience they attach to the issue.

The challenge model

The challenge model (Bueno de Mesquita et al., 1985; Bueno de Mesquita, 1994, 2000) represents an influence process that may take place during any type of bargaining process. The challenge model assumes that actors shift their positions as the result of proposals and counter-proposals, based on their perceptions and expectations about the bargaining situation in which they operate. The shifts in position that a stakeholder chooses are – from the perspective of the stakeholders themselves – optimal, given the constraints under which they operate. These constraints include stakeholders' perceptions about which demands from other stakeholders are credible and which demands are likely to be refused by opponents. The bargaining process is

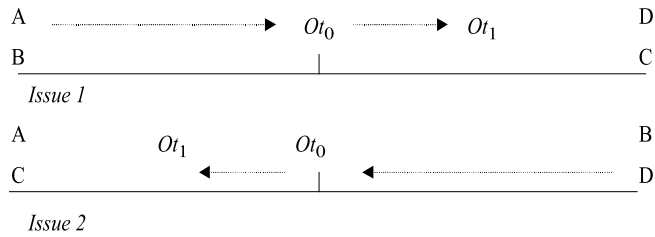
seen as a competition between stakeholders, in which they formulate competing demands on others, with a view to attracting as much support as possible for their own policy positions. In this competition, none of the actors can force others to do what they said they would do. In other words, agreements are *not binding*.

Actors have full information about the positions, saliences and capabilities of each other. However, they do not know what perceptions others have about their own opportunities or willingness to take risks. Each actor behaves according to its own perceptions and expectations. Thus, whereas some stakeholders are more inclined to accept risks, others are risk averse and may prefer an intermediate outcome to the risk of an outcome that is poor from their point of view. When assessing the probability of success in a given conflict among stakeholders, each stakeholder takes into account the support others give to the alternative proposed by itself, as well as the support for the alternative proposed by its rivals. The more a stakeholder expects to gain from challenging a rival position, the more likely it is to undertake the challenge.

This model assumes that there are successive rounds of negotiations. Within each round, stakeholders challenge each other, decide whether or not to accept these challenges and – as a result of these choices – may shift their positions. In the subsequent round of negotiations, actors begin with these revised positions and the expected outcome that is based on these new positions. The process stops when persisting with the negotiation has higher expected costs than the expected benefits for the stakeholders involved; in other words, when it is expected that only marginal changes would take place as a result of persisting with the negotiations.[2] The actors' positions, as predicted by the challenge model after this final round of negotiations, are compared with the final positions actually taken by the actors.

The exchange model

Whereas the challenge model predicts outcomes and shifts of positions for each issue separately, the exchange model (Stokman and Van Oosten, 1994; Stokman et al., 2000) connects different issues with each other. Shifts of positions result from bilateral deals between actors on pairs of issues. The model assumes that the actors first estimate what the decision outcome would be if they did not exchange with each other. This estimate is the average of the actors' initial positions, weighted by the product of the actors' capabilities and the level of salience they attach to the issue (this is the compromise solution discussed above). The actors then investigate whether they can bring the decision outcome closer to their own preferred position by engaging in bilateral exchanges of voting positions on pairs of issues. Such bilaterally



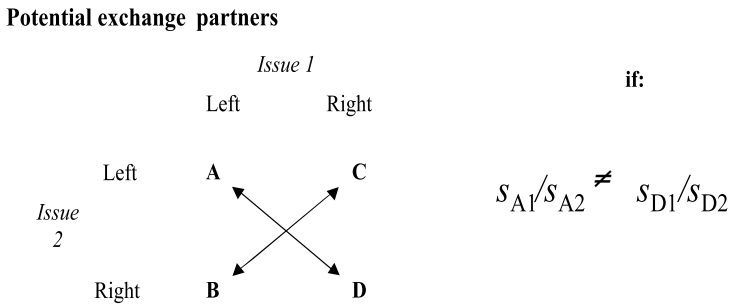


Figure 2 Exchange between actors.
Note: *Ot* is the location and the direction of the predicted outcome before (Ot_0) and after (Ot_1) the exchange of policy positions has taken place.

profitable deals are possible whenever two actors have initial positions on opposite sides of the expected outcomes on both issues and differ in terms of the relative salience they attach to the two issues. The exchange deals involve one actor shifting its position on one issue (its supply issue) in the direction of the other actor, in exchange for a shift in the position of the other actor on the other issue (its demand issue) towards its position.

An exchange between two actors works as follows. Suppose that the relative salience for actor *i* of issue 1 in comparison with issue 2 is relatively higher than for actor *j*. Issue 1 is then the demand issue for actor *i* and issue 2 the demand issue for actor *j*. In addition, the actors have initial positions on opposite sides of the expected outcome on both issues (e.g. actor *i* holds position A and actor *j* holds position D in Figure 2). An exchange of voting positions between actors *i* and *j* could take place in the following direction: actor *i* moves its voting position on its supply issue 2 in the direction of the initial position of actor *j*. In return, actor *j* moves its voting position on issue 1 in the direction of the initial position of actor *i*. For each of the actors, the exchange has produced a utility gain on its demand issue and a utility loss

on its supply issue. One of the actors always shifts completely to the position of the other actor, and the other actor moves its voting position so far that the utility gains of both actors are the same.[3]

Figure 2 represents the idea of shifts of positions between two actors according to the exchange model. First of all, there must be at least two issues. Second, the potential exchange partners have to take positions on opposite sides of the expected outcome on each pair of issues, and must attach different levels of salience to both issues such that the potential exchange opportunities shift the expected outcome in the same direction. In Figure 2, A and D type actors are potential exchange partners, as are B and C. The direction of the shift depends on the relative salience these actors attach to both issues.

Like the challenge model, the exchange model assumes that the bargaining process takes place over a number of rounds.[4] The actors begin the first round with their initially most favoured positions. After evaluating the exchange possibilities, a list of the potential exchanges is drawn up. The list begins with the exchanges that bring most gains to the actors involved in them. These are the exchanges that are first realized. As a result of the shifts in actors' positions during these exchanges, some potential exchanges further down the list are no longer feasible and are therefore deleted. Once all exchanges left on the list have been realized, a new round of bargaining begins.

Shifts in policy positions are assumed to be *binding agreements* within each round. If the actors do not reach consensus in a round, a new round starts. The agreements within a round are not binding between the rounds. It is assumed that, at the start of each new round, the actors shift their initial positions in the direction of the voting position they agreed to in the previous round. The size of the shift depends on the level of salience they attach to the issue: the actors move their initial positions toward the voting positions they agreed upon with the fraction $(1–s_{ia})$. For example, suppose an actor attaches a salience of 50 to an issue on a scale between 0 and 100; its initial position was 100 and after the first exchange round it agreed to take the position 50. Then, the actor will start the new round at position 75. The actors' final positions are those after the tenth round of bargaining, when the positions have invariably stabilized and would not move (much) if further rounds were allowed.

Shifts always result in better outcomes for the two actors involved in the exchange. However, other actors profit from such an exchange only if the shifts in the expected outcomes are towards their own policy positions. Otherwise, they experience losses. Such gains and losses for the actors not directly involved in the exchange are called positive and negative externalities (Van Assen et al., 2003). In the exchange model as applied here, it is assumed that

actors exploit exchange possibilities only on issues within each Commission proposal; they do not make exchanges across issues from different proposals.

Research design

The data set used to apply and test the models described in the present article contains information on shifts in policy positions on 28 Commission proposals. These 28 proposals contain a total of 72 controversial issues. This data set is part of a larger data set referred to in other articles in this special issue (66 Commission proposals). These proposals were selected so that they were controversial, recent and subject to either the consultation or the co-decision procedure. The 28 proposals on which we have data on position shifts are an arbitrary selection of these 66.[5] These proposals were not selected according to any criteria that could affect the results of the analysis. The 28 Commission proposals are from a broad range of policy areas, including internal market, agriculture, transport, energy, economic and financial affairs, health, and justice and home affairs. All these proposals were subject to either the consultation or the co-decision legislative procedures. Within each of these procedures, different voting rules may be applied in the Council, either qualified majority voting (QMV) or unanimity. With regard to the Commission proposals subject to consultation, 11 required QMV and 8 required unanimity in the Council. For the proposals decided under the co-decision procedure, 8 required QMV and 1 needed unanimity. The selection also includes proposals for new and amendments to existing directives, regulations and decisions. There are 14 directives, 11 regulations and 3 decisions in the data set.

The dependent variable is the shift in policy position of each EU actor on each controversial issue. Thus, data have been collected on the initial and final positions of each of the EU stakeholders involved in the bargaining on each issue discussed within the framework of each proposal. The *initially most favoured policy position* refers to the policy alternative the actor chose to support just after the Commission proposal was introduced. The *final position* refers to the policy alternative the actor defended on each issue just before a final decision was taken. Therefore, we collected data on the stakeholders' positions at two time points for all 28 Commission proposals. These data were obtained by interviewing policy experts who participated directly in the bargaining process. The data were validated in some cases on the basis of additional documentation (such as *Agence Europe* or official reports made by the Parliament, the Council and/or the Commission). The sizes of the shifts between initial and final positions are measured on policy scales that are

standardized so that their end points are 0 and 100. The sizes of the shifts provide information on the frequency and size of position changes during the EU bargaining process.

The three models make use only of the initial positions of the actors, not of the final ones. We compare the final voting positions predicted by the models with the information on final positions obtained in the interviews. The error of a model is measured by the mean absolute difference between the actual final positions and the final voting positions predicted by the model on the standardized issue scales. In addition, we can compare the sizes and directions of the predicted shifts with the empirical ones.

Experts sometimes indicated that actors did not take positions on certain issues. In policy issues in which some stakeholders did not take policy positions, those stakeholders simply did not feature in the analysis, and the models are applied to the stakeholders that revealed policy positions.

'Actor's capabilities' is a variable used in the bargaining models referred to above. The indicator we use is the Shapley–Shubik Index (see Stokman and Thomson in this issue).

There are three parts to our analysis. First, we provide an illustration in which the predictions and errors of the different models are presented. Second, we present information on the frequency and sizes of shifts reported by the experts. Third, we analyse the errors of the voting positions predicted by the models by comparing them with the final positions as reported by the experts. We also examine the errors of the models within policy areas, legislative procedures and type of issues.

Illustrative case study – the tobacco directive

In November 1999, the Commission introduced a proposal for a directive on the approximation of member states' legislation on the manufacture, presentation and sale of tobacco products (COM(1999)594). This proposal was subject to the co-decision procedure under qualified majority voting and was discussed in the Health Council. In the first public discussion held on this dossier, the Commission's proposal was welcomed by all member states (*Agence Europe*, 19 November 1999). It was not until the discussions got under way that it became apparent that there were fundamental differences between the positions of some of the member states and, in some respects, between the three institutions.

This section is structured as follows. First, the issues discussed in the proposal are described. Second, we pay attention to the main shifts in the actors' positions. For the sake of brevity, just one issue will be described in

some detail and the remaining issues discussed in a very summary fashion. Finally, we describe the predictions of the models concerning the shifts in the actors' positions and compare them with the actual shifts.

The issues

Five issues were identified by the policy experts that, in their view, capture the main elements of these discussions and the content of the directive adopted in June 2001. Two of the issues included in the analysis are described graphically in Figure 3. This figure includes the initial positions of the actors and the salience they attached to both issues. Each issue is represented by a continuum. The descriptions of the different stakeholders' positions are shown above each line, after the numerical value given to each position. The initial positions of stakeholders are presented under each line.

The first issue concerns the question of whether tobacco products produced in the EU and intended for export to non-EU countries should be subject to the same provisions as products intended for the EU market. These provisions include such things as the maximum tar and nicotine yields. During the early stages of the discussions on this issue, two camps could be clearly distinguished. Most of the member states and the EP supported the Commission's proposal that the same rules should apply to tobacco products intended for export outside the EU. Five member states that have substantial tobacco manufacturing industries were said to oppose the application of the same rules. Note that the presence or absence of a tobacco industry did not necessarily determine the member states' positions on this or any of the other issues. The UK, for example, the home of large tobacco companies, took a position in the public health camp. The delegations of five member states – Germany, Greece, Spain, Luxembourg and Austria – were said to take initial positions arguing that the EU provisions should not apply to products intended for the non-EU market. Two arguments were employed by these delegations. First, the directive was designed as an internal market directive; differences between the member states with respect to the production of tobacco products not intended for sale in the EU cannot be considered an infringement of the internal market. Second, it was argued that the imposition of EU rules would lead to the relocation of production outside the EU.

The second issue concerns the strength of the health warning on tobacco products. Here, the alliances between actors are very similar. The Commission, supported by most of the member states, called for a substantial increase in size, to cover 25% of the packaging, with the addition of more forceful health warnings. It was expected that this issue would be emphasized by the European Parliament, owing to political visibility of this issue.

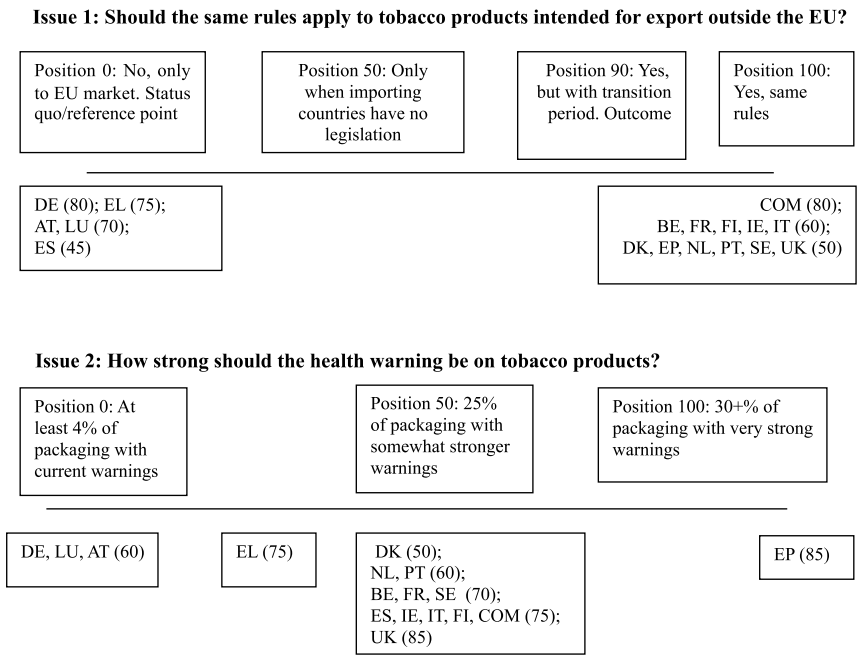


Figure 3 The tobacco products directive (COM/1999/594): Two of the five issues specified by experts.
Note: Salience scores in parentheses. COM: Commission; EP: European Parliament; BE: Belgium; DK: Denmark; DE: Germany; EL: Greece; ES: Spain; FR: France; IE: Ireland; IT: Italy; LU: Luxembourg; NL: The Netherlands; AT: Austria; PT: Portugal; FI: Finland; SE: Sweden; UK: United Kingdom.

This expectation proved correct. The EP, which obtained the support of the Commission, succeeded in achieving a radical directive: 30–50% of the packaging was to be covered with health warnings of a specific nature. Although some of the more frightening health warnings proposed by the EP were not included in the final directive, the outcome was judged to be very close to the EP's preference.

The disclosure of product information (issue 3) concerns the ingredients included in tobacco products, some allegedly to increase the addictive potential of these substances. Here, the issue was whether a list of substances should be drawn up. The Commission's proposal contained provisions for moving toward such a list in the future. The proposal was made more radical by drawing up a specific timetable for this.

The fourth issue, on the nature of the committee that would be responsible for updating the directive in the light of new scientific evidence, was a

more technical issue. On this issue, the member states' positions were not defined by their sympathies for the tobacco industry. Instead, the issue concerned the freedom of manoeuvre that should be given to the Commission in setting up this committee. A compromise was agreed on, whereby the Commission consented to consult the member states regarding the composition of the committee.

The fifth and final issue was the cause of considerable controversy right up to the final stages of the discussions. It concerned the proposal to ban certain product descriptives, terms such as 'light' and 'mild'. The argument for banning these terms was that they imply that the product is less harmful to health, whereas there is little or no scientific evidence that this is the case. In addition, the EP, along with several member states, argued that other descriptive terms, such as the word 'only' when referring to yield levels, had the same effect and should also be outlawed. A complicating factor was that some of these terms are registered trademarks. The final outcome is close to the EP's preference for a blanket ban on all such descriptive terms. It was reported that there were relatively few shifts in the positions of the stakeholders on this issue.

Model predictions

As an illustration, we discuss the predictions of the models on the issue concerning the ban on some product descriptives (such as 'light' and 'mild').

The challenge model predicts some shifts accurately (as that some stakeholders would not shift), whereas others are less accurate. The challenge model predicts accurately that there would be no shifts in the positions of those stakeholders (such as Denmark or Greece) that wanted to ban the terms 'light' and 'mild' on tobacco boxes. In addition, the model predicts quite correctly that stakeholders with important tobacco industries, such as Austria or Luxembourg, would stay very close to their initial positions. Furthermore, the challenge model is also accurate when it says that the EP as well as other stakeholders (the UK, France and Ireland) would moderate their stances regarding the ban on terms such as 'light' and 'mild'. The model is not accurate, however, when it affirms that some stakeholders who supported the ban on both terms (position 100 on the scale) would not moderate their initial positions. In particular, the model predicts that some stakeholders (Belgium, Finland, Italy and Sweden) would modify their positions by shifting to a position of support for banning the terms 'light' and 'mild' only (position 50 on the scale). Moreover, the challenge model predicts that some member states (the Netherlands and Portugal), in favour of banning the term 'light' only, would not modify their positions. However, both actors shifted at the end of

the process to support a more comprehensive ban on different types of descriptives.

In the predictions of the exchange model regarding the ban on descriptives, we also find important similarities between the observed and the predicted shifts in policy positions. The exchange model predicts accurately that France would modify its initial extreme position supporting the total ban of different descriptives towards a more moderate position. France indeed shifted its position from 100 on the scale to 80. The exchange model predicts that the shift of the French delegation on this issue is due to an exchange with Portugal on the third issue. The exchange model also predicts that Finland and Sweden would not modify their initial positions. This is exactly what happened. However, the shifts of a few actors are not well predicted by the exchange model. If we look only at the direction of the shifts on the scale, rather than the point predictions of the final position, the predictions of the exchange model are far better: in almost all cases, the exchange model accurately predicts the direction of the shifts of position.[6]

If we assume that all actors shift their position to the decision outcome predicted by the compromise model, we arrive on average at more accurate predictions than those made by the challenge and exchange models, as far as the issue of banning descriptives is concerned. According to the compromise model prediction, all actors take a position close to the blanket ban, with only some exceptions, which is what actually happened.

Table 1 illustrates the input to the subsequent analyses, with the ban on descriptives as an example. Each case concerns the position of an actor on an issue in a Commission proposal. The information of relevance to the case consists of the actor's initial and final positions obtained from experts and the three final voting positions predicted by the models. The data have a nested structure, in which the lowest level refers to the positions, the second level to the issues and the third level to the Commission proposals.

Analysis

In this section, we compare the models' predictions of the actors' final positions with the final positions the actors are reported to have taken after the completion of the bargaining process. First, we present the simple percentage (and number) of cases correctly predicted by the initial position model (which is our base model). Second, we identify whether the predictions of the models are in the right direction. Did the models predict shifts in the direction in which the actors actually shifted, and did they predict stability in actors' positions when the actors did not shift their positions?[7] Finally, we

Table 1 Actual and predicted shifts in actors' positions on the issue of 'banning' descriptives such as 'light' and 'mild'

Actor	*Initial position*	*Challenge model*	*Exchange model*	*Compromise prediction*	*Actual final position*
Austria	25	25	90.2	77.3	30
Belgium	100	50	52.2	77.3	100
Denmark	50	50	100.0	77.3	50
EP	100	50	69.0	77.3	75
Finland	100	50	100.0	77.3	100
France	100	50	80.0	77.3	80
Germany	25	25	52.2	77.3	40
Greece	50	50	90.2	77.3	50
Ireland	100	50	48.7	77.3	80
Italy	100	50	74.4	77.3	100
Lux.	50	50	90.2	77.3	40
NL	25	25	57.3	77.3	80
Portugal	25	25	30.0	77.3	80
Spain	50	50	67.9	77.3	80
Sweden	100	50	100.0	77.3	100
UK	100	50	89.2	77.3	80

compare the distances between the predicted final positions and the actual final positions in terms of the mean average error for each set of predictions.

The initial position prediction assumes that actors do not shift their initial positions: actors' final positions after negotiation are assumed to be the same as their initial positions. How often do actors not shift their positions at all during the EU bargaining process? We have exactly 1000 observations of initial and actual final positions. In 488 (48.8%) of these cases, EU stakeholders did not shift their positions at all during the bargaining process. We draw two conclusions from this. First, position shifts are an important phenomenon in EU bargaining, since in more than half of the cases there are differences between the initial and final positions. This suggests that *bargaining matters* in the EU's decision-making process. Second, the high percentage of stable positions makes it difficult for models that predict shifts of positions to improve on the predictive power of the initial position prediction.

Position shifts are therefore important during the EU bargaining process. But there are differences between the actors in the extent to which they shift their positions during the bargaining process. Some actors shift policy positions more times and to a larger extent than others. Compared with the

other actors, the European Parliament shifted its positions more often and to a greater extent. The information on shifts in the positions of the EP relates to the co-decision procedure. The differences between the EP's first- and second-reading opinions were reported as shifts in the Parliament's position. Within the Council, Spain, France and the UK were the actors that shifted their positions most often, and Austria and Finland were the member states that shifted their positions the least.[8]

What mechanisms drive these shifts in the actors' policy positions during the EU bargaining process? To answer this question we test our competing theoretical models (and related mechanisms) in two different ways. First, we investigate whether the different models correctly predict the direction of the actual shifts in position. This analysis provides a first indication of the accuracy of the models. Second, we look at the accuracy of the point predictions of the final positions. In this analysis we focus on the mean error, defined as the absolute distance between the predictions of the final positions and the actual final positions. For the null model (the initial position prediction), this is the average absolute distance between the actors' initial positions and their final positions. For the models containing substantive propositions on the nature of the bargaining process, errors are measured by the distance between the final positions predicted – which may not coincide with the actors' initial positions – and the actual final positions.

Table 2 provides information on the extent to which the models predict the direction of shifts in policy positions correctly, and stability in positions when actors do not shift. The most important finding is that, overall, the exchange model gives the most accurate predictions of the direction of shifts and the stability in positions (see the final column of Table 2). However, the relative order of the models' performance differs, depending on whether we focus on positions that shift or those that remain stable. When actors shift their positions, they usually do so in the direction of the compromise prediction; indeed, the compromise prediction is correct regarding the direction of the shift in 92.2% of the (512) cases. The exchange model predicts the direction of the shifts less accurately (57.3%), but is considerably more accurate than the challenge model (45.5%). When the exchange and challenge models do not predict the direction of the shift correctly, this is usually because the models predict stability in the actors' positions, when they in fact shifted. Although the compromise prediction is very accurate regarding the direction of position shifts, it never predicts stability in policy positions. By contrast, the exchange model correctly predicts 46.0% of the cases in which the actors did not shift their positions. Again, this is somewhat more accurate than the challenge model (41.3%).

What are the distances between the models' predicted final positions and

Table 2 Correct and incorrect model predictions of shifted and stable positions (%)

	Shifted positions			*Stable positions*		*Total*
	Correct: model predicts shift in same direction	*Incorrect: model predicts stability*	*Incorrect: model predicts opposite shift*	*Correct: model predicts stability*	*Incorrect: model predicts shift*	*Shifted & stable positions predicted correctly*
Exchange model	57.3	37.7	4.3	46.0	54.0	51.7
Compromise prediction	92.2	0.0	7.8	0.0	100.0	47.2
Challenge model	45.5	44.7	9.8	41.3	58.6	43.5

Note: For the exchange model, the percentages are based on 966 cases, 483 positions that shifted and 483 that remained stable. For the compromise and challenge models, the percentages are based on 1000 cases, 512 positions that shifted and 488 that remained stable.

the actual final positions? Table 3 indicates that the initial position prediction has the smallest average error: 22.0 points on the policy scale that is standardized to run from 0 to 100. On the one hand, this error term indicates that the most accurate prediction of actors' final positions is that actors will maintain their initial positions. On the other hand, an error of 22 points on the policy scale indicates that there is substantial movement in actors' positions. Given this insight, it is worthwhile turning to models that predict position shifts, to understand what drives this bargaining process.

The compromise prediction has the second-lowest error term: 25.2 points. The final positions predicted by the exchange model have an average error of 26.5 points, and those of the challenge model have an average error of 28.7 points. Do these errors differ significantly from each other? Table 4 contains the results of the Wilcoxon Signed Ranks Test. This non-parametric test compares the errors of each pair of models against each other. The test is based on the number of times the errors of one model are greater than, equal to or less than those of the other model. The table shows the number of cases where the prediction of the model in the row is more accurate, less accurate or equal to the predictions of the models in the column. The results show that both the compromise predictions and the exchange model predictions are significantly more accurate than those of the challenge model. The

Table 3 Summary of errors of models' predictions of actors' final policy positions

Model	*Error of models*
Bargaining models' predictions	
Challenge model	28.75 (n = 1000)
Exchange model	26.51 (n = 966)
Baseline predictions	
Compromise prediction	25.24 (n = 1000)
Initial position model	22.0 (n = 1000)

Table 4 Model comparisons: Wilcoxon Signed Ranks Test

		Compromise model	*Challenge model*
Challenge model	More accurate	451	
	Less accurate	549***	
	Equal to	0	
Exchange model	More accurate	466	423**
	Less accurate	500	352
	Equal to	0	191

*** $p < .01$; ** $p < .05$

Table 5 Summary of errors of models' predictions of final policy positions by policy areas

	Agriculture	*Internal market*	*Other policy areas*
Challenge model	24.79 (n = 206)	34.39 (n = 316)	26.72 (n = 478)
Exchange model	28.21 (n = 205)	33.55 (n = 316)	20.72 (n = 445)
Compromise prediction	29.97 (n = 206)	32.60 (n = 316)	18.34 (n = 478)

compromise predictions and the exchange model's predictions do not differ significantly in accuracy.

Table 5 examines the differences between the errors of the models' predictions of the final positions in different policy areas: internal market, agriculture and other policy areas. The last category includes issues related to areas

Table 6 Correlations between the errors of the models at the actor level (their predictions of actors' final positions) and the issue level (their predictions of decision outcomes)

	Model						
Model	*Initial position*	*Challenge*	*Compromise*	*Exchange*	*Challenge*	*Compromise*	*Exchange*
Error at the actor level							
Initial position	1.0000	0.4407	0.0564	0.4098			
Challenge	0.4407	1.0000	–0.0003	0.0678			
Compromise	0.0564	–0.0003	1.0000	0.2855			
Exchange	0.4098	0.0678	0.2855	1.0000			
Error at the issue level							
Challenge	0.0002	0.0915	0.2660	0.0915	1.0000	0.5856	0.4815
Compromise	0.1033	–0.0210	0.5709	0.1721	0.5856	1.0000	0.7051
Exchange	0.0634	–0.0300	0.3348	0.2637	0.4815	0.7051	1.0000

such as transport, energy, health, fishing, Ecofin, and justice and home affairs. These areas were combined into one category because each of them contained only a few issues. In agricultural issues, the challenge model is the most accurate model. On issues related to internal market policies and other policy areas, the compromise prediction is the most accurate. There appear to be substantial differences between the policy areas in terms of the models' performance, indicating that the bargaining processes in these areas differ.

When we compute the error of the different models for issues subject to different legislative procedures, we find that the exchange model provides the most accurate predictions under both consultation QMV and consultation unanimity.[9] Under both co-decision QMV and co-decision unanimity, the compromise prediction is most accurate.[10]

When examining the accuracy of the models' predictions of actors' final positions, it is of interest to examine whether this correlates with the accuracy of the models' predictions of decision outcomes. As is clear from the above description of the models, they generate predictions of the decision outcomes as well as predictions of the shifts in actors' policy positions. The accuracy of the models' predictions of decision outcomes is addressed by Achen (forthcoming b) in the volume *The European Union Decides*. He shows that the compromise model generates the most accurate forecasts of decision outcomes, although the exchange model also does rather well; in fact, they are not statistically distinguishable. The challenge model and a range of other models generate less accurate predictions of decision outcomes.

Table 6 displays the correlations between the errors of the models' predictions of actors' final positions and the errors of the models' predictions of the decision outcomes. This table shows that, when the predictions of actors' final positions are more accurate, the predictions of the decision outcomes are as well. The error of the compromise model's prediction of the decision outcome is highly correlated with the accuracy of the compromise prediction of actors' final positions (0.57). The errors of the challenge and exchange models' predictions of decision outcomes are also positively correlated – albeit less strongly – with the errors of their predictions of actors' final positions: 0.09 and 0.26 respectively. The correspondence between the 'micro' (actor-level) and 'macro' (issue-level) performance of the models is also confirmed by three sets of multi-level regression analyses, one on the errors of each set of predictions of actors' final positions (not displayed). The errors of the compromise model prediction, the exchange model prediction and the challenge model prediction were all smaller when the same model generated more accurate predictions of the decision outcome on the issues concerned.

The positive correlations between the model performances at the micro and macro levels are generally also found when comparing the performance

of different models. It is noteworthy that the error of the compromise prediction at the actor level is positively correlated with the errors of both the exchange model (0.33) and the challenge model (0.27) at the issue level. In other words, if the actors converge to the compromise decision outcome, both the challenge and the exchange models generate more accurate forecasts of the decision outcomes. The only cases where there are negative correlations between the micro- and macro-level performances concern the error of the challenge model at the actor level and the errors of both the compromise and/or exchange models at the issue level. Although the negative correlation is not strong, it indicates that, when the challenge model's predictions of actors' final policy positions are more accurate, the exchange and compromise models' predictions of decision outcomes are less accurate. This tendency is confirmed by a multi-level regression analysis in which it was found that the challenge model's predictions of final positions are more accurate when the decision outcomes predicted by the compromise model are less accurate.

Conclusion

We examined the relevance of a conception of political bargaining in which shifts in actors' positions are central to EU decision-making. In doing so, alternative models of the bargaining process were referred to and applied. According to these models, actors are sometimes willing or feel compelled to shift their position during the bargaining process. The exchange model posits that actors shift their policy positions to take advantage of mutually profitable exchange opportunities between pairs of actors over pairs of issues. The challenge model is based on a non-cooperative bargaining process, in which actors engage in a series of challenges with a view to shifting other actors' positions. These models were compared with two others: the compromise model and the initial position. The compromise model predicts a final decision outcome that approximates the Nash bargaining solution, under the assumption that disagreement among the actors is much less desirable to them than any alternative (Achen, forthcoming a). In terms of the position shifts of actors, we simply assumed that all actors shift their positions to this compromise solution. On the other hand, the initial position prediction presupposes that actors do not shift their positions at all, and that their final positions are the same as their initial ones. The initial position prediction is seen as a null model against which we evaluate the predictions of the models containing substantive propositions about the bargaining process.

The findings indicate that position shifts occur frequently in EU decision-making and that there are empirical regularities in these shifts. As

we have shown in this article, EU actors shift their policy positions during the bargaining process more often than they stand firm on their initial positions. Consequently, models that attempt to offer insight into this process should provide explanations of this feature of bargaining. The data we analysed relate to actor positions on 72 controversial issues in 28 Commission proposals from recent years. In total, we investigated about 1000 observations of initial and actual final positions (not all actors took a position on each of the 72 issues).

The comparison of the models' predictions with actual outcomes in a case study and in larger-scale quantitative analyses indicates an important amount of variance, even within the same models, in terms of the accuracy of the predictions. Overall, the most accurate point predictions of the final position are made by the initial position prediction, which assumes that actors do not shift their positions. This prediction has an average error of 22 points on the 0–100 issue scales. However, the size of this error also indicates that position shifts do indeed occur. The compromise prediction and the exchange model generate the most accurate forecasts of these shifts. The average error of the compromise predictions of the actors' final positions is 25.2 points and that of the exchange model 26.5 (these do not differ statistically); these predictions are significantly more accurate than those of the challenge model (28.7). Unlike the exchange and challenge models, the compromise prediction contains no theoretical insights into the actor-level behaviour that leads to these shifts. Therefore, when the focus of the analysis is on the shifts in actors' policy positions, the exchange model and the challenge model are more interesting from a theoretical perspective. Combining these theoretical and empirical insights implies that the exchange model contains the best explanation.

This is the first study in which the models' predictions have been tested at the actor level on such a scale. It was shown that their performance is positively correlated with their performance in predicting decision outcomes. However, although the alternative mechanisms investigated in this article are all present in the EU bargaining process to different degrees, the correspondence between these actor-level and issue-level results adds credence to the view that bargaining in the European Union is best understood in terms of compromise and exchange.

Notes

1 For a discussion of recent developments in this area of research see Thomson et al. (2003).
2 In the challenge model (the expected utility model) the negotiations terminate when the so-called 'discount rule' applies. This rule usually applies after around three rounds of negotiations.

3 The exchange rate of equal utility gain involves a comparison of utilities between individuals. Alternative exchange rates include the Raiffa–Kalai–Smorodinski solution (RKS) (Friedman 1990: 218–23) or the Nash bargaining solution. Van Assen (2001) compares the three solutions and shows that RKS and Nash differ from equal utility gain only under certain conditions. A comparative analysis of the three exchange rates in empirical applications resulted in only marginal differences in the predicted outcomes. An exchange rate based on equal utility gain makes the ordering of potential exchanges easier, since their order in terms of utility gains is the same for the two actors involved in the exchange.

4 The decision outcome predicted by the exchange model is the outcome predicted by the model in round 10. In this round, predicted outcomes are stable outcomes and there are only minor new shifts in policy positions after this round.

5 Three researchers involved in the data collection had an interest in position shifts – Javier Arregui, Robert Thomson and Vincent Boekhoorn – and collected this information on most of the Commission proposals they were responsible for.

6 The only exceptions are Denmark, Belgium, Luxembourg and Italy.

7 Here, an actor's position is considered stable if its position reported just before the adoption of the legislative act is the same as its initial position. Therefore, we do not consider the possibility that the actor shifted its position during the bargaining process but returned to its initial position at the end.

8 Differences between the shifts in the policy positions were also found between different policy sectors. On issues relating to agriculture, the most flexible actors – those that shifted their policy positions most often – were Spain, Portugal and Luxembourg. Greece and Germany are the member states that shifted their positions least. In the negotiation of issues in the area of the internal market, we found that the EP, Spain, France and Italy shifted their positions more than others. In this article we are concerned less with describing the shifts than with evaluating the predictive accuracy of alternative models of the bargaining process. The description of actors' position shifts is the subject of a forthcoming paper.

9 The error of the exchange model is 22.62 under consultation unanimity, versus 24.41 for the challenge model and 25.26 for the compromise model. Under consultation QMV, the error of the exchange model is 24.16, versus 28.26 for the challenge model and 24.73 for the compromise model.

10 Under co-decision unanimity, for example, the mean error of the compromise model is 16.45, versus 35.96 for the challenge model and 20.97 for the exchange model. Under co-decision QMV, the mean error of the compromise model is 28.68, versus 29.85 for the challenge model and 37.73 for the exchange model.

References

Achen, Christopher (forthcoming a) 'Institutional Realism and Bargaining Models', in Robert Thomson, Frans Stokman, Christopher Achen and Thomas König (eds) *The European Union Decides*.

Achen, Christopher (forthcoming b) 'Evaluating Political Decision-Making Models', in Robert Thomson, Frans Stokman, Christopher Achen and Thomas König (eds) *The European Union Decides*.

Baron, David P. and John A. Ferejohn (1989) 'Bargaining in Legislatures', *American Political Science Review* 83: 1181–206.

Berveling, Jaco (1994) *Het Stempel op de Besluitvorming. Macht, Invloed en Besluitvormig op Twee Amsterdamse Beleidsterreinen*. Amsterdam: Thesis Publishers.

Bueno de Mesquita, Bruce (1994) 'Political Forecasting and Expected Utility Model', in Bruce Bueno de Mesquita and Frans Stokman (eds) *European Community Decision-Making*. New Haven, CT: Yale University Press.

Bueno de Mesquita, Bruce (2000) *Principles of International Politics: People's Power, Preferences and Perceptions.* Washington, DC: CQ Press.

Bueno de Mesquita, Bruce and Frans Stokman (eds) (1994) *European Community Decision-Making*. New Haven, CT: Yale University Press.

Bueno de Mesquita, Bruce, David Newman and Alvin Rabushka (1985) *Forecasting Political Events: The Future of Hong Kong*. New Haven, CT: Yale University Press.

Friedman, James (1990) *Game Theory with Applications to Economics*. New York: Oxford University Press.

Hug, Simon and Thomas König (2002) 'In View of Ratification, Governmental Preferences and Domestic Constraints at the Amsterdam Intergovernmental Conference', *International Organization* 56(2): 447–76.

König, Thomas (1997) *Europa auf dem Weg zum Mehrheitssytem: Gründe und Konsequenzen nationaler und parlamentarischer Integration*. Wiesbaden: Westdeutscher Verlag.

König, Thomas and Simon Hug (2000) 'Ratifying Maastricht, Parliamentary Votes on International Treaties and Theoretical Solution Concepts', *European Union Politics* 1(1): 89–122.

Merlo, Antonio and Charles Wilson (1995) 'A Stochastic Model of Sequential Bargaining with Complete Information', *Econometrica* 63(2): 371–99.

Payne, Diane (1999) *Policy Making in the European Union: An Analysis of the Impact of the Reform of the Structural Funds in Ireland*. Amsterdam: Thesis Publishers.

Peterson, John and Elizabeth Bomberg (1999) *Decision-Making in the European Union*. London: Macmillan Press.

Rojer, Maurice (1999) 'Collective Decision-Making Models Applied to Labour Negotiations in the Netherlands: A Comparison between an Exchange Model and a Conflict Model', *Rationality and Society* 11: 207–35.

Scharpf, Fritz (1988) 'The Joint-Decision Trap: Lessons from German Federalism and European Integration', *Public Administration* 66(3): 239–78.

Schneider, Gerald and Lars-Erik Cederman (1994) 'The Change of Tide in Political Cooperation: A Limited Information Model of European Integration', *International Organization* 48: 633–62.

Stokman, Frans and Jan M. Van den Bos (1992) 'A Two-Stage Model of Policy Making with an Empirical Test in the U.S. Energy Policy Domain', in Gwen Moore and Allen Whitt (eds) *The Political Consequences of Social Networks: Research in Politics and Society*, Greenwich, CT: JAI Press.

Stokman, Frans and Reinier van Oosten (1994) 'The Exchange of Voting Positions: An Object-Oriented Model of Policy Networks, in European Community

Decision-Making', in Bruce Bueno de Mesquita and Frans Stokman (eds) *European Community Decision-Making*. New Haven, CT: Yale University Press.
Stokman, Frans, Marcel van Assen, Jelle van der Knoop and Reinier van Oosten (2000) 'Strategic Decision Making', *Advances in Group Processes* 17: 131–53.
Thomson, Robert, Rene Torenvlied and Frans Stokman (eds) (2003) 'Models of Collective Decision-Making', *Rationality and Society* 15(1): 5–14.
Van Assen, Marcel (2001) *Essays on Actors' Models in Exchange Networks and Social Dilemmas*. Amsterdam: Thesis Publishers.
Van Assen, Marcel, Frans Stokman and Reinier van Oosten (2003) 'Conflict Measures in Cooperative Exchange Models of Collective Decision-Making', *Rationality and Society* 15(1): 85–112.
Van den Bos, Jan (1991) *Dutch EC Policy Making. A Model-Guided Approach to Coordination and Negotiation*. Amsterdam: Thela Thesis.

About the authors

Javier Arregui is a PhD researcher at the Interuniversity Center for Social Science, Theory and Methodology (ICS). University of Groningen, Sociologie/ICS, Grote Rozenstraat 31, 9712 TG-Groningen, The Netherlands.
Fax: +31 50 3636226
E-mail: j.arregui@ppsw.rug.nl

Frans Stokman is a Professor of Social Science Research Methodology at the University of Groningen. University of Groningen, Sociologie/ICS, Grote Rozenstraat 31, 9712 TG-Groningen, The Netherlands.
Fax: +31 50 3636226
E-mail: f.n.stokman@ppsw.rug.nl

Robert Thomson is a Researcher at the RAND Corporation and a lecturer at the University of Utrecht. RAND Europe, Newtonweg 1, 2333 CP-Leiden, The Netherlands.
Fax: +31 71 5245191
E-mail: Robertt@rand.org