Bureaucrats versus Politicians? Estimating a Model of Legislative Bargaining in the European Union

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Abstract

Critics of the European Union frequently claim that the European Commission has an undue influence on legislation vis-à-vis the Council of the European Union and the European Parliament. We evaluate this claim by proposing and structurally estimating a dynamic model of the legislative process of the European Union. The estimated model shows that the most powerful forces shaping policy are the veto rights of the Council and the Parliament, while the Commission has a limited impact on the outcome of the bargaining over a proposal under consideration. Furthermore, the Council is located closer to the status quo than the Parliament, enabling the Council to use its veto to achieve favourable outcomes. We also use our model to simulate counterfactual changes to the bargaining protocol of the European Union and suggest ways to increase the efficiency of the process.

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1 Introduction

The European Union faces a fundamental challenge. While the scope of European legislation continues to widen, a significant share of citizens perceives a lack of democratic legitimacy in EU decision-making. This is epitomized by complaints about the allegedly excessive powers of "unelected bureaucrats in Brussels" frequently voiced by proponents of the UK's decision to leave the EU. In reality, the laws and regulations that the EU produces are a shared responsibility of the European Commission, the European Parliament, and the Council of the European Union. And while the Commission is indeed a highly bureaucratic organisation, both the Parliament and the Council are democratically legitimised.[1] Whether the critics of the European Union are justified therefore hinges on the question of who has the strongest influence on EU legislation—the "bureaucrats" of the Commission or the politicians in the Parliament and the Council?

In this paper we contribute to this debate by empirically analysing the bargaining power of the three co-legislators of the European Union. To do so, we first develop a novel model of the legislative process of the EU. Passing a law is a complex process that progresses through up to three readings, each of which is divided into a number of smaller steps. By tailoring our model more closely to this bargaining protocol than previous contributions, we are able to structurally estimate the parameters of the model based on decisions observed during actual negotiations. This also makes our study the first to estimate a model of bargaining in a setting where negotiations occur over multiple observable rounds. The estimated model provides insights into the distribution of power among the Commission, the Parliament, and the Council. In addition, it allows us to carry out counterfactual simulations where we evaluate the consequences of changes to the bargaining protocol.

Passing a law in the EU typically requires the involved institutions to follow the protocol of the so called Ordinary Legislative Procedure. We model this process as a game of alternate-offer bargaining among the Commission, the Parliament, and the Council. In order to match the delay in agreement that we observe in the data, we assume that the urgency that legislators attach to a particular proposal has a stochastic component. This creates uncertainty about the set of proposals that will be accepted in the next period at the point when a proposal is chosen. As a consequence, delay becomes a property of equilibrium. An additional feature of the data is that negotiations fail in a significant number of cases. We allow for this possibility in the model by assuming that legislators not only bargain along an ideological dimension, but also decide how much effort to invest in producing legislation of high quality. Increases in quality allow the institutions to break legislative gridlock. The flip side is that a proposal can fail if such improvements in the legislative text fail to materialize. Importantly, the quality of legislation is also a concern in practice and the European institutions have started multiple initiatives aimed at improving the quality of their

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[1] The characterisation of the members of the European Commission as bureaucrats is nevertheless debatable. See the discussion at the beginning of section 3.

legislative output, such as the Interinstitutional Agreements on Better Law-Making of 2003 and 2016.

We estimate the model on data that contains information on the nature and timing of all decisions taken as part of the Ordinary Legislative Procedure during the seventh term of the European Parliament between 2009 and 2014. Our model predicts a number of choice probabilities of which we observe the empirical counterparts in the data. This enables us to formulate moment conditions and estimate the parameters of the model via the generalized method of moments. The estimated model fits the data well and the parameter vector that we obtain has a number of plausible features.

The estimated model allows us to analyse which institution has the greatest influence. We find that under the estimated parameter vector, policy is largely determined by veto rights. The reason for this is that institutions rarely agree about the direction in which policy should be moved and use their veto to prevent any changes they disagree with. Combined with the empirical result that quality is valued little relative to policy, this implies that large shifts away from the status quo are precluded from the outset. While the ability of legislators to block proposals turns out to be crucial, the veto of the Commission is never binding. Accordingly, the Commission has a limited impact on proceedings once a proposal is on the table. Among the Parliament and the Council, on the other hand, the Council has the advantage that its position is typically much closer to the status quo than that of the Parliament. This makes the veto of the Council particularly effective in securing favourable outcomes and the Council thus emerges as the most influential institution.

The complaints often voiced by critics of the European Union about an all-too-powerful European Commission are thus not confirmed by our results. Instead, national governments, which are represented in the Council of the European Union, retain a high degree of influence. And while the actual influence of the European Parliament still lacks behind that of the Council, this is less driven by the formal rules governing the legislative process, but follows mostly from the differing positions of the Council and the Parliament relative to the status quo.

The dominant role of veto rights that our results indicate also means that changes to other features of the Ordinary Legislative Procedure—such as the number of readings or the order of moves—would be largely inconsequential at least in terms of policy outcomes. There is, however, the possibility that such modifications would affect the length of the process. We investigate this through two counterfactual simulations. In the first experiment we remove the ability of the Commission to influence the majority requirements in the Council, while the second counterfactual we simulate is a removal of the second reading. As expected, both changes have negligible effects on outcomes in terms of the agreed policy and the amount of effort that institutions invest in improving the quality of laws. In contrast, the timing of agreement is affected in both cases. Abolishing the influence of the Commission on voting in the Council appears to be a particularly effective way of reducing the number of rounds of bargaining required for legislators to achieve agreement.

An additional set of results relates to the quality of EU legislation that our model predicts.

We find that the vast majority of laws constitute an increase in quality over the status quo while proposals of low quality are likely to fail. The Parliament exerts most effort among the three institutions, while the Council never invests. We demonstrate that the incentives to invest in quality can be decomposed into multiple separate effects that help explain these differences in behaviour. Most importantly, an increase in quality affects bargaining over policies and can enable an institution to shift the agreed policy in its preferred direction. Under the estimated parameters this effect magnifies the value of quality to the Parliament with reverse consequences for the Council. In the language of the bargaining literature, the Council faces a problem of hold-up.

The remainder of this paper is organised as follows: Section 2 places our study in the context of the literature. In Section 3 we explain the legislative process of the European Union, while Section 4 describes the dataset we use and provides a descriptive account of lawmaking in the EU. The model is presented in Section 5, which also contains our theoretical results. Section 6 explains how we estimate the parameters of the model and presents the empirical results. The robustness of our findings is discussed in Section 7. Finally, Section 8 concludes.

2   Literature

This paper contributes to multiple literatures. First of all, our work relates to previous attempts to evaluate the balance of power among the institutions of the EU. Theoretical contributions to this literature focus on formal rules—such as the order in which institutions vote on a proposal, or majority requirements within the Parliament and the Council—and their implications for the ability of actors to influence outcomes (See, for example, Tsebelis & Garrett 2000, Crombez 2003, Napel & Widgrén 2006, Hagemann & Høyland 2010). The predictions of any such theory, however, typically depend on underlying parameters, such as the cost of delay to each actor, that are not readily observed. Consequently, different authors tend to reach different conclusions.

The most recent strain of empirical work on bargaining power in EU decision-making, on the other hand, has been based on data collected by the Decisionmaking in the European Union project (Thomson et al. 2006, 2012), which selected 125 legislative proposals and used expert interviews to illicit information on the positions of key actors as well as the final outcome within the context of each proposal. Thomson & Hosli (2006) and Costello & Thomson (2013) use this data to compute weights that yield the policy that legislators agree on as a weighted average of each of their positions. These studies find that the Council is the most powerful institution. Expert interviews are also used by König et al. (2007) to evaluate relative bargaining power in the Conciliation Committee.

We extend the literature on decision-making in the EU in a number of ways, both theoretically and empirically. Our model captures the legislative process in much greater detail than existing models and we are the first to incorporate the quality of legislation into the analysis. The data we use, which includes the universe of proposals discussed under the Ordinary Legislative Procedure

during the last complete term of the European Parliament, has previously not been exploited for the purpose of gaining insights into the distribution of power among EU institutions. In addition, we are also the first to formally estimate a model in this context.

Models of bargaining have, however, been estimated in a number of different settings, ranging from government formation (Merlo 1997, Diermeier et al. 2003, 2007), over medical malpractice disputes (Waldfogel 1995, Sieg 2000, Watanabe 2005, Merlo & Tang 2012) and plea bargaining (Silveira 2017) to wage negotiations (Diaz-Moreno & Galdon-Sanchez 2005). None of these papers estimate a model in a setting where negotiations proceed according to an explicit protocol with multiple observable stages as we do[2] or include investment decisions.

Finally, we also contribute to an emerging literature on the determinants of the quality of legislative output. Hirsch & Shotts (2015) and Hitt et al. (2017) theoretically analyse the incentives of a parliamentary committee to invest in the quality of a proposal that later faces a vote in parliament. In contrast to our model, quality is specific to each proposal, ruling out the problems of hold-up that play a crucial part in the current paper. Iaryczower & Katz (2016) structurally estimate a model of voting in the US Congress where legislators hold private information regarding the quality of a fixed proposal. The main concern is what can induce members of Congress to vote informatively, in which case only good proposals pass. Our focus is on what determines the quality of a proposal in the first place.

3   The Ordinary Legislative Procedure

As the name suggests, the Ordinary Legislative Procedure applies to a majority of legislative proposals considered by the institutions of the European Union. During the seventh term of the European Parliament, which lasted from 2009 to 2014, about two thirds all laws passed and almost 90% of newly introduced proposals were subject to the Ordinary Legislative Procedure. The process starts with the introduction of a new legislative proposal by the European Commission. This proposal is then debated and potentially amended by the European Parliament and the Council of European Union through the course of up to three readings.

The European Parliament is the only directly elected institution involved in the legislative process, with elections held every five years. The Council consists of ministers from the national governments of each member state and meets in different configurations depending on the subject of the law being debated. The members of the Commission, which forms the executive branch of the European Union, are appointed by the governments of member states at the start of each term of the Parliament and have to be confirmed by a parliamentary vote. In general, the process by which members of the Commission are appointed is therefore not vastly different from the appointment

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[2]To the best of our knowledge, multiple observable stages of bargaining have previously only been a feature of experimental data. See, for example, Nunnari & Zapal (2016) and the papers cited therein.
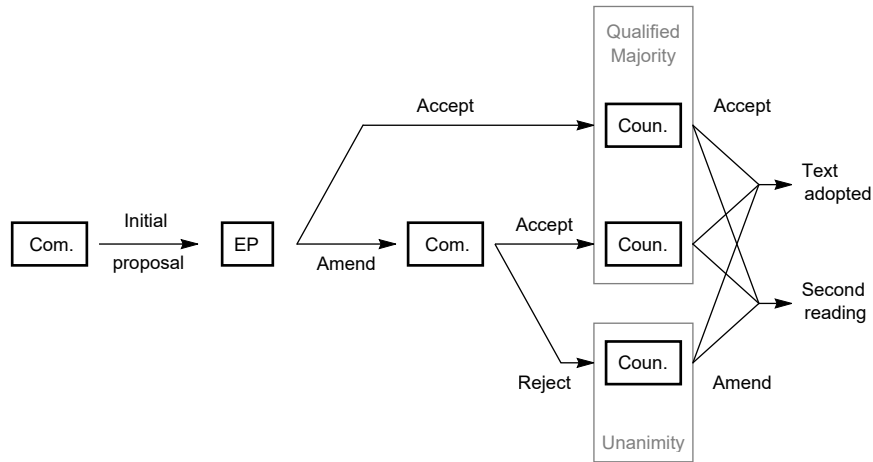
Figure 1: Timing of the Ordinary Legislative Procedure - First Reading

of government ministers in many countries. From this perspective the Commission is no more bureaucratic than the government of France, for example, or, indeed, the Council itself.

The timing of the ordinary legislative procedure is illustrated in figures 1 and 2. After the proposal of the Commission has initiated the first reading, the Parliament can either accept the legislative draft as it is or introduce amendments. The potentially amended proposal is then forwarded to the Council. If the Council accepts the proposal, the process ends and the act is adopted. If the Council instead introduces amendments of its own, the process moves on to the second reading.

The second reading has a structure similar to the first reading. The Parliament again has the options of accepting the proposal in its current state or proposing amendments. Unlike at first reading, acceptance of the proposal leads to the immediate adoption of the act. In the case of amendments, the Council holds a vote on whether it accepts or rejects the proposal. Acceptance leads to the adoption of the act, while rejection starts the third reading. Note that the Council is not able to propose any amendments of its own during the second reading. Another difference between the first and the second reading is that the latter is subject to time constraints. According to the official rules, each institution is supposed to conclude its second reading within a period of three months with a possible extension to four months.

If the third reading is reached, the so called Conciliation Committee convenes, which tries to find a text that is acceptable to the Parliament and the Council with the Commission officially playing an intermediating role. Once a compromise has been found, both the Parliament and the Council need to agree to the proposal in separate votes for the act to be adopted. Otherwise the proposal has failed.

Accept   Text adopted

Council Position → EP

Qualified Majority

Accept

Coun.

Amend → Com.

Accept → Coun.

Accept → Text adopted

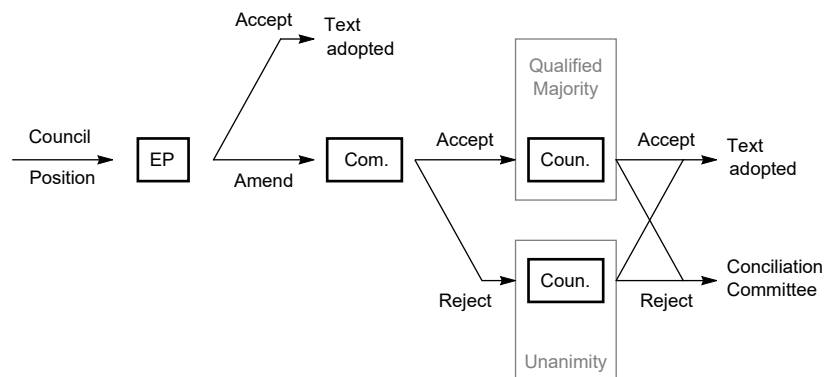Reject → Coun.

Reject → Conciliation Committee

Unanimity

Figure 2: Timing of the Ordinary Legislative Procedure - Second Reading

The Commission has an official role beyond drafting the initial proposal and mediating in the Conciliation Committee. To begin with, the Commission can withdraw proposals as long as the Council has not concluded its first reading. This gives the Commission veto power. Furthermore, the Commission states its opinion on any amendments introduced by the Parliament. If the Commission disagrees with any of the proposed changes, the Council can only accept the amendments of the Parliament by a unanimous vote. If the Commission agrees with all amendments, on the other hand, a qualified majority in the Council usually[3] suffices to adopt the act.

An important part of the practice of the Ordinary Legislative Procedure—and one that is not provided for in the treaties—are informal meetings between representatives of the institutions called "trilogues". During these meetings, which start soon after the adoption of a proposal by the Commission and take place throughout the process, the legislative draft is discussed with the aim of finding a compromise acceptable to all sides. Negotiators expect that texts agreed during trilogues will be signed into law without further changes. The participants of a trilogue therefore need to be confident that the agreed text will pass any required subsequent votes. For example, if agreement is reached in a trilogue prior to the conclusion of the first reading in Parliament, the Members of Parliament present in the trilogue must be confident that the agreed text will receive the required number of votes during the plenary session that officially concludes the first reading in Parliament. Members of the Parliament and the Council are, however, under pressure to pass any texts agreed during trilogues as failure to do so would substantially weaken the bargaining power of the institution in question during subsequent negotiations.

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[3]Proposals relating to certain areas such as taxation or defence always require unanimity.

4   The Data

The data we use is taken from the EUR-Lex database of the EU, which provides detailed information on all relevant decisions taken by the participating institutions during the negotiations over any legislative proposal ever introduced by the Commission. Our analysis will focus on the seventh term of the Parliament, which lasted from 2009 to 2014 and is the most recent completed term. Each observation in our dataset is thus a legislative proposal subject to the Ordinary Legislative Procedure for which at least one decision was taken during the seventh term. There are 718 such proposals. However, not every single one of these constitutes an independent proposal. The Commission sometimes introduces packages of proposals on a single issue, which are then effectively treated as one proposal during the legislative process. Such "legislative packages" can be identified in the data, as all decisions on proposals belonging to a package are taken in parallel. After correcting for this issues,[4] we are left with 623 independent proposals and 1,517 observed decisions.

Based on this dataset, we calculate a number of probabilities. First of all, we compute the likelihood that the first and the second reading both in the Parliament and the Council end with agreement on the proposal currently on the table. Another decision of interest is whether or not the Commission agrees with amendments proposed by the Parliament. As was mentioned in the previous section, this determines the majority requirements if the Council subsequently wants to accept the amendments in question. The opinion of the Commission is recorded as "agreement","partial agreement", or "refusal". As even partial agreement means that at least one unanimous vote is required in the Council to accept the proposal of the Parliament, we treat both partial agreement and refusal as "disagreement". Finally, we compute the probability that a proposal fails. While the Parliament or the Council may explicitly reject a proposal, failure typically manifests itself as an indefinite period of inactivity, which is sometimes ended by the official withdrawal of the proposal by the Commission. We thus treat any proposal as failed that has been rejected or withdrawn by any institution or has not seen any legislative activity for at least six years.[5] As only three years had passed since the end of the seventh term at the time of writing, this creates an issue of censoring. We therefore compute the probability of failure based only on the first two years of the seventh term.[6]

Table 1 lists the decisions we focus on, as well as their probability. As the table shows, the

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[4]We first searched for groups of proposals where all major decisions were taken on the same day. If at least five major decisions were recorded in the data for each proposal belonging to a group, we classified this group as a package. If less than five decisions were observable, we checked manually if the proposals belong to a group.

[5]There is no completed first reading in the Parliament and only one completed first reading in the Council that lasted more than six years in our dataset. The latter case was proposal COM (2005) 507 on the portability of supplementary pension rights. The Council concluded its first reading on this proposal on February 17 2014, about six years and eight months after Parliament adopted its first reading opinion.

[6]Laws never fail in our dataset after the Council has concluded its first reading. Accordingly, we consider proposals that were either adopted by the Commission during the first two years of the seventh term, or where the conclusion of the first reading in the Parliament fell into that period. The probability of failure is the share of all such proposals that failed.

	Prob.	Obs.
First Reading		
Approval by EP	0.1050	457
Commission agreement on EP amendments	0.7445	317
Approval by Council conditional on		
No amendments by EP	0.9677	62
EP amendments approved by Commission	0.9844	320
EP amendments not approved by Commission	0.1404	57
Second reading		
Approval by EP	0.6610	59
Commission agreement on EP amendments	0.7619	21
Approval by Council conditional on		
EP amendments approved by Commission	0.8846	26
EP amendments not approved by Commission	0.0000	4
Proposal fails	0.1606	193

Table 1: Probability of decisions on legislative proposals during the seventh term of the European Parliament

Parliament amends almost 90% of proposals during the first reading, but only one third of proposals during the second reading. The Commission approves a high share of these amendments during both readings. The Council, on the other hand, accepts most proposals if there were no amendments introduced by the Parliament or if all amendments were accepted by the Commission, but rejects almost all proposals if the amendments of Parliament were at least partially rejected by the Commission. As the final row of the table shows, about one in six proposals fail and never become law.

Passing a single law can require a substantial amount of time. Table 2 shows the median length in days of the various stages of the Ordinary Legislative Procedure for laws concluded during the seventh term, measured from the conclusion of the previous step to the conclusion of the step in question. The numbers are conditional on the outcome of the respective stage. Clearly, rejecting a proposal requires much more time than accepting it. For example, if the Council introduces amendments of its own during the first reading this takes more than ten times as long as when it accepts the proposal received from the Parliament. This highlights the role of trilogues: Acceptance

	Median Length
First Reading	
in EP if no amendments	158
in EP if amendments	378
in Council if no amendments	29
in Council if amendments	306
Second reading	
in EP if no amendments	42.5
in EP if amendments	120
in Council if agreement	93
in Council if disagreement	199.5
Third reading	26.5

Table 2: Length in days of different stages of the Ordinary Legislative Procedure for laws passed during the seventh term of the European Parliament

by the Council of amendments introduced by the Parliament during the first reading in most cases means that agreement was achieved during trilogues held before the formal conclusion of the first reading in the Parliament. The amendments introduced by the Parliament correspond to the agreed text in this case and acceptance by the Council is in most cases merely a formality. Table 2 also shows that the second reading is much shorter than the first reading, which reflects that both institutions are familiar with the issues being debated at this point as well as the time limits that the second reading is subject to.

5   A Model of Legislative Bargaining

This section describes the model that we will subsequently use for estimation. Some theoretical results can be found in Section 5.2 with proofs relegated to Appendix A.

5.1   Description of the Model

The protocol of the Ordinary Legislative Procedure, which was explained in section 3, is reminiscent of a game of alternate-offer bargaining and our approach reflects this. Throughout, the letter b will refer to the Commission (located in Brussels), c will refer to the Council, and s will refer to

the European Parliament (located in Strasbourg). Both the Commission and the Parliament are modelled as unitary players, which is a common approach in the literature (Hix & Høyland 2013, p. 174). Since votes in both institutions are subject to a majority requirement of 50 percent, the player representing each of them can be interpreted as the median voter of the respective institution. As was explained above, votes in the Council are typically held under qualified majority, but sometimes require unanimity. In the model, the Council is therefore represented by two separate players, one for each mode of voting: the Council voting under qualified majority is denoted by c and by $\tilde{c}$ in case of unanimity.[7]

The legislative process is modelled as a game with an infinite time horizon, but all decisions are taken in the first five periods. The game starts with the introduction of a new legislative proposal by the Commission. Proposals have both an ideological and a quality component. The ideological dimension is represented as a point p on the real line, while quality q can take two possible values, 0 and h. The utility of institution $z \in \{b, c, \tilde{c}, s\}$ is given by

$$u_z(\mathbf{p}, \mathbf{q}, \boldsymbol{e_z}, \boldsymbol{\delta_z}) = \sum_{t=0}^{\infty} \bar{\delta}_z^t \left(-(p_t - i_z)^2 + q_t - e_{z,t} \right) ,$$

where $\mathbf{p}$, $\mathbf{q}$, $\boldsymbol{e_z}$, and $\boldsymbol{\delta_z}$ are infinite sequences of policies, quality-levels, effort choices, and discount factors, i_z is the ideal point of institution z, and

$$\bar{\delta}_z^t = \prod_{\tau=0}^{t} \delta_{z,\tau} .$$

In any period that ends without agreement on a proposal the policy p_t is equal to the status quo p_o and quality q_t is equal to 0. Once agreement has been reached, policy and quality for the current and all future periods are determined by the proposal on the table in the moment of agreement. To distinguish the effective policy and quality in period t from the policy and quality included in the proposal on the table at the beginning of period t, we will denote the latter as $(\hat{p}, \hat{q})$. We thus have $p_t = \hat{p}_t$ and $q_t = \hat{q}_t$ if and only if agreement is reached in period t, while $p_t = p_o$ and $q_t = 0$ if no agreement has been reached by the end of period t.

At the beginning of period t the discount factor $\delta_{z,t}$ of institution z is drawn independently from a distribution F_z with mean m_z and is private information of the respective institution. In reality,

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[7]Representing the Council by two players is certainly a simplification. Both voting under qualified majority and under unanimity generates two pivotal players. If the policy space is one-dimensional as in our case, the two pivotal players under unanimity, for example, are the two most extreme members of the Council. The member with the smallest ideal point is decisive in votes where the policy under consideration is larger than the status quo while the member with the largest ideal point is decisive in the opposite case. Theoretically, it would be straightforward to extend our model and represent the Council by four players. Unfortunately data limitations prevent us from estimating the two additional parameters that would be required. At least under the estimated parameter vector (see Section 6) the interpretation of the two players representing the Council as pivots is valid though, as policy proposals always lie on the same side of the status quo.

how patient legislators are is likely to be highly dependent on political circumstances and thus bound to change over time. In the model, assuming that these costs are independently distributed has two important consequences: First of all, this assumption rules out learning about how impatient other players are. Together with the feature of the game that all decisions are made in a finite number of periods, this leads to a unique equilibrium. Second, uncertainty about other players' preferences generates the possibility of delay in agreement occurring in equilibrium, which is also a feature of the data.

When an institution has the opportunity to introduce a new proposal, the ideological component can in principle be chosen freely. However, the veto rights of the Commission, the Parliament, and the Council put constraints on the proposals that can be made in practice. In particular, the ideological component will have to belong to the set of points that each institution prefers over the status quo. We refer to this set as the agreement set and denote it by $A(p_o, q)$.[8] The utility an institution associates with any given proposal is increasing in the level of quality and high quality therefore increases the size of the agreement set.

While changing the policy component of a proposal is costless, increasing quality from 0 to h requires effort. If an institution invests effort $e_t \in [0, \infty)$ in period t, the probability that quality will increase from 0 to h in period t is given by $H(e_t)$, where H is an increasing strictly concave function with $H(0) = 0$ and $H(e) < 1 \; \forall e \in [0, \infty)$. The design of a new proposal proceeds as follows: If quality is low and the first reading has not been concluded yet, the acting institution first chooses an effort level and then immediately observes the resulting quality. The ideological component of the proposal is chosen subsequently. If quality is already high or the first reading has been concluded, the institution simply chooses the ideological position of the proposal. The assumption that institutions can only invest in quality during the first reading is made to mirror the fact that the second reading is subject to stringent time constraints, as mentioned in section 3.

The broader timing of the bargaining game closely resembles that of the Ordinary Legislative Procedure. In practice, whenever an institution rejects a proposal this marks the start of a new round of trilogues in an attempt to achieve agreement. We model trilogues as a simple take-it-or-leave-it offer by the institution that rejected the previous proposal. If the Parliament rejects the initial offer by the Commission in the first reading or rejects the position of the Council at the beginning of the second reading, the Parliament thus starts by designing a new proposal. The Commission then states whether it agrees with this proposal or not. In the former case player c (the Council under qualified majority) accepts or rejects the proposal, while in the latter case the decision rests with player $\tilde{c}$ (the Council under unanimty). While this is a simplification, i_c and $i_{\tilde{c}}$ can be thought of as the ideal point of the member of the Council that casts the decisive vote under qualified majority and under unanimity, respectively. In this interpretation $i_{\tilde{c}}$ represents the

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[8]The set of all policies that an institution prefers over the status quo is given by $A_z(p_o, q) = \{p \in \mathbb{R} \, | -(p - i_z)^2 + q \geq -(p_o - i_z)^2\}$. The agreement set is then given by $A(p_o, q) = \bigcap_{z \in \{b,s,c\}} A_z(p_o, q)$.

ideal point of the most extreme member of the Council.

If a trilogue is initiated after the Council rejected either the initial proposal of the Commission or the trilogues during the first reading in the Parliament failed, the timing is simpler. In this case the Council starts by designing a proposal, which is subsequently either accepted or rejected by the Parliament.[9]

Whenever a trilogue yields agreement the game effectively ends and utility is determined by the accepted proposal in all future periods. If, on the other hand, no agreement has been reached by the time the Parliament concludes its second reading, the Conciliation Committee meets and agrees on a compromise. We model this process by assuming that the Parliament and the Council split the available surplus according to a parameter w, which will be one of the parameters that we estimate in subsequent sections. More specifically, let

$$p_z^*(p_o, q) = \underset{p \in A(p_o, q)}{\arg\max} \ -(p - i_z)^2$$

be the most preferred point of institution z in the agreement set. The policy agreed on by the Conciliation Committee is then given by

$$w \ p_c^*(p_o, q) \ + \ (1 - w) \ p_s^*(p_o, q) \ .$$

To summarize, the game starts with the design of an initial proposal by the Commission. If both the Parliament and the Council accept this offer, the proposal of the Commission is implemented. If the Parliament rejects the initial offer, this leads to a first trilogue during the first reading in the Parliament. If this trilogue ends without agreement—or if the Council rejects the inital offer of the Commission after acceptance by the Parliament—further trilogues are held during the first reading in the Council. Renewed failure to agree intitates the second reading. As explained above, the level of quality of the proposal remains constant from this point on as no further investments in quality are possible. The second reading features a final trilogue. If the Council rejects the offer of the Parliament, the Conciliation Committee convenes. The game is divided into periods, which determine how institutions discount future payoffs. A period ends either if agreement has been reached or immediately after an institution has made a new offer. As the game features incomplete information and sequential moves we employ the equilibrium concept of Perfect Bayesian equilibrium.

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[9]The Commission has no formal means to influence the decision of the Parliament during this phase of the ordinary legislative procedure and accordingly we do not give the Commission any role during this particular round of trilogues either.

5.2 Theoretical Results

In this section we describe how we solve the model. In addition, we show that the incentives driving investments in quality can be decomposed into a number of separate effects.

The task of deriving equilibria of the game is simplified by the assumption that discount factors are drawn independently each period. This implies that players never update any beliefs that are relevant for their decisions. For example, observing that the Parliament rejects the initial proposal of the Commission during the first reading reveals some information about $\delta_{s,0}$. However, this information is not relevant for the decisions of any other institutions: by the time the Parliament makes another decision it will have drawn a new discount factor. Accordingly, any knowledge of $\delta_{s,0}$ does not help to predict how the Parliament will behave in future periods. The game can therefore be solved by backward induction. Denote by $V_{z,t}(\hat{p}, \hat{q})$ the continuation value in equilibrium at the beginning of period t for institution z if the previous period ended with disagreement and the proposal currently on the table is given by $(\hat{p}, \hat{q})$.[10]

Legislators make three types of decisions: whether to accept the proposal on the table, how to place a new proposal along the ideological dimension, and how much effort to invest in generating higher quality. As we formally show in appendix A, effort choices and accept-reject decisions have unique solutions. In addition, we show that the choice to accept or reject a proposal follows a cut-off rule on the discount factor of the institution in question at the point that the choice is made. Institutions with a discount factor below the cut-off prefer to accept the proposal while more patient legislators are in favour of rejection. The final type of decision is less straight-forward the characterize: When an institution decides where to place a new proposal on the ideological dimension, it generally faces a trade-off between moving the proposal closer to its own ideal policy and the probability that this proposal will be rejected. In general, the probability of acceptance is not concave and not even necessarily monotone in the ideological component $\hat{p}$. While the optimal policy is nevertheless typically unique, we cannot rule out that under some parameter constellations more than one global maximum exists. We describe in Section 6 how we deal with this problem when we estimate the model.

In the remainder of this section we describe the different factors that influence the amount of effort that legislators invest in writing laws of high quality. To simplify the notation we will drop $\hat{p}_t$ as a state variable in what follows. As shown by Proposition 1 in Appendix A, positive optimal

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[10]There exists an additional state variable that indicates whether the Parliament accepted the initial proposal by the Commission in period 0. At that point, the proposal is forwarded to the Council within the same period if the Parliament accepts but only in period 1 if the Parliament rejects. In the former case all subsequent moves are shifted forward by one period relative to the latter case. The additional state variable therefore determines who moves in later period. As we always refer to arbitrary periods in the subsequent discussion, we do not include this state variable in the notation for clarity.

effort e_z^* by institution z in period $t-1$ is characterized by the first order condition

$$H'(e_z^*) \; \delta_{z,t-1} \; (V_{z,t}(h) - V_{z,t}(0)) = 1 \; .$$

The left-hand side of this expression is the marginal utility of investments in effort, which must equal the marginal cost on the right-hand side at the optimum. The most interesting aspects of the choice of effort are captured in the term $V_{z,t}(h) - V_{z,t}(0)$, which measures to what extent an institution benefits from an increase in quality. It is possible to distinguish three different forces that affect this utility gain.

To do so, let $\tilde{V}_{z,t}$ denote the hypothetical continuation value that would apply if any investments in quality in subsequent periods were ruled out. We can then rewrite

$$\begin{aligned}
&V_{z,t}(h) - V_{z,t}(0) \\
&= V_{z,t}(h) - \tilde{V}_{z,t} + \tilde{V}_{z,t} - V_{z,t}(0) \\
&= V_{z,t}(h) - \tilde{V}_{z,t} \; - \; (V_{z,t}(0) - \tilde{V}_{z,t}) \; .
\end{aligned}$$

Furthermore, we can write the continuation value $V_{z,t}(h)$ as

$$V_{z,t}(h) = \sum_{T=t}^{\infty} \left(\mathrm{E}_{t-1}[-\bar{\delta}_z^T (p_T - i_z)^2 \mid \hat{q}_t = h] \; + \; \mathrm{E}_{t-1}[\bar{\delta}_z^T q_T \mid \hat{q}_t = h] \right) \; ,$$

as utility is additively separable in policy and quality and each institution invests in quality at most once. Combining the last two expressions yields

$$\begin{aligned}
&V_{z,t}(h) - \tilde{V}_{z,t} \; - \; (V_{z,t}(0) - \tilde{V}_{z,t}) \\
&= \sum_{T=t}^{\infty} \mathrm{E}_{t-1}[-\bar{\delta}_z^T (p_T - i_z)^2 | \hat{q}_t = h] - \tilde{V}_{z,t} \\
&\quad + \; (\tilde{V}_{z,t} - V_{z,t}(0)) \\
&\quad + \sum_{T=t}^{\infty} \mathrm{E}_{t-1}[\bar{\delta}_z^T q_T | \hat{q}_t = h] \; .
\end{aligned}$$

Each row of this expression has a clear interpretation. The final row is the consumption value of quality, which is reduced by delay in agreement as the quality of a proposal only affects utility once the proposal is signed into law. The intermediate row captures free-riding: the difference $V_{z,t}(0) - \tilde{V}_{z,t}$ measures the extent to which the value of not investing today is increased by subsequent investments by other institutions compared to the case if these investments were ruled out. The first row measures the effect of high quality on subsequent bargaining over policies. If this difference is negative, the policy component of the utility of the institution is below the level of utility achieved if

quality remained low. This happens if an increase in quality weakens the bargaining position of the legislator and some of the benefits of high quality are eroded by worse policy. In the language of the bargaining literature, the institution faces a problem of hold-up. If, in contrast, the same difference is positive, the institution has an opportunity to extract surplus. In the former case the incentives to invest in quality are reduced, while they are amplified in the latter case. The reasons why high quality matters for policy outcomes are twofold. The first channel is that an increase in quality makes it more costly to reject a proposal and therefore strengthens the bargaining position of the institution making the proposal. The second channel is that high quality increases the number of policies that each institution prefers over the status quo, thus expanding the agreement set. The outcome of the Conciliation Committee in the final period of bargaining is therefore likely to change, which also affects earlier rounds of negotiations.

To summarize, the amount of effort invested in increasing quality is negatively affected by free-riding, hold-up, and delay in agreement, while an opportunity to extract surplus has a positive effect.

6   Empirical Implementation

This section describes the empirical results. We first explain how we estimate the model and present the resulting parameters as well as the fit of the model to the data. Our main results, which use the model to analyse the distribution of bargaining power among EU institutions, are presented subsequently. We then turn to two counterfactual simulations where we investigate the consequences of changes to the protocol of the Ordinary Legislative Procedure. The final set of results presented in this section analyses the investments in quality of the different legislators under the estimated parameters.

6.1   Estimation and Basic Results

We estimate the parameters of the model presented in the previous section using the generalized method of moments. To do so, we calculate the choice probabilities predicted by our model, which can then be used to construct moment conditions that are informative about the model's parameters. Importantly, we assume heterogeneity in the status quo across different pieces of legislation. As a consequence, choice probabilities need to be calculated conditional on the status quo, which persists in case the institutions cannot agree on a legal text and negotiations fail. Accounting for variation in the status quo is essential. For instance, existing legislation in the areas of agriculture and taxation will differ strongly in the degree of policy harmonisation across member states that has already been achieved. New proposals in these fields will therefore have substantially different starting points, and institutions' positions will differ strongly relative to the status quo.

Institutions in our model decide the type of proposals or amendments to make, on whether to accept proposals or amendments put forward by other institutions, as well as on the effort made towards obtaining a higher-quality legal text. Each of these decisions depends both on the status quo that a proposal aims at changing and on the outcomes of the stochastic elements of the model: the realizations of discount factors and the probability that the quality of a legislative draft increases conditional on the effort institutions invest. Hence, in order to derive the choice probabilities that help identify our model parameters, distributions for the ex ante heterogeneity in the status quo and for the model's stochastic components need to be specified. We assume that the status quo is drawn from a standard normal distribution.[11] Other parameters of the model are constant across proposals and thus need to be interpreted relative to the location of the respective status quo. The distributions F_z that the discount factors of institutions are drawn from are assumed to be uniform with mean $m_z \in (0.5, 1)$ and support $[2m_z - 1, 1]$. While we allow for the ideological positions of the Council to vary depending on the voting rule, we assume that discount factors are drawn from the same distribution, with $m_c = m_{\tilde{c}}$. Finally, the functional form for the function H, which translates effort e into a probability of higher quality, is given by $e/(1 + e)$.

Given these functional form assumptions we can derive closed-form solutions for effort choices and accept-reject decisions. To solve for optimal policy proposals, on the other hand, we rely on grids. As we are not able to show theoretically that this problem has a unique solution, we check for multiple global maxima whenever we solve the model under a specific parameter vector. We have not encountered a single instance where the game has more than one equilibrium.

The above choices leave us with nine parameters to estimate: four ideal points (i_b, i_s, i_c, and $i_{\tilde{c}}$), three means for the distributions of discount factors (m_b, m_s, and m_c), the weight of the Council during Conciliation w, and the value of high quality h. In the model, the probability that a law fails depends strongly on the value of quality. The observed share of failed proposals therefore enables us to identify the parameter h. The outcome of the Conciliation Committee, on the other hand, directly affects the likelihood that the Council accepts the amendments of Parliament in the second reading. The empirical counterpart of this choice probability can therefore be used to identify the parameter w. Identification of the ideal point of the Council under unanimity rests on the observed probability that the Council accepts amendments of the Parliament in first reading after these amendments have been rejected by the Commission. The remaining parameters are the ideal points and average discount factors of the Commission, the Parliament, and the Council voting under qualified majority, which are identified from the two (additional) accept-reject decisions that we observe for each of these institutions. Note that the predictions of our model would not change if we shift the distribution of the status quo as well as all ideal points in parallel along the real line. The location of our problem is thus not identified, but pinned down by assuming that the

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[11]In practice, we need to discretise the distribution of the status quo. We achieve this by arranging 1000 points on an evenly-spaced grid strictly between zero and one and then applying the inverse of the standard normal CDF to these points.

mean of the distribution of the status quo is equal to zero as we did above. Similarly, the scale of the model is determined by setting the variance of the distribution of the status quo equal to one. These choices of mean and variance therefore amount to pure normalisations.

To estimate the parameters we use the probabilities listed in Table 1 to construct moment conditions of the form

$$\mathrm{E}\left[\mathbf{a_t^d} - \mathrm{E}\left[\mathbf{a_t^m}(\theta) \mid \{a_{\tau < t}^m\}\right] \mid \{a_{\tau < t}^d\}\right] = 0 \ ,$$

where $\mathbf{a_t^d}$ indicates acceptance by institution z at stage t in the data while $\mathrm{E}\left[\mathbf{a_t^m}(\theta) \mid \{a_{\tau < t}^m\}\right]$ denotes the conditional expectations that a proposal is accepted in period t given the sequence of previous acceptance outcomes $\{a_{\tau < t}^m\}$ as predicted by the model with parameter vector θ. All expected outcomes beyond the initial choice of the Parliament to accept or reject the proposal of the Commission have to be conditioned on earlier outcomes, since they determine the applying voting rule and/or whether later stages are reached. Out of the ten probabilities listed in Table 1, we decide to not use the probability that the Council accepts the proposal of the Parliament during the second reading after rejection by the Commission due to the small number of observations that this probability is based on as well as the fact that the probability itself is equal to zero. Our estimator then minimizes the sum of squared deviations from our nine moment conditions.

A comparison of the choice probabilities predicted by our model and those actually observed for the decisions made during the 7th European Parliament in table 3 shows that our model replicates these moments very well. While we overpredict somewhat the probability that a proposal fails, all other theoretical moments on average only deviate by 2.7 percent from their empirical counterparts.

We list the estimated parameters as well as their standard errors in Table 4. Legal texts are characterized by two dimensions in our model: an ideological dimension and a qualitative one. Parameters i_b, i_s, i_c, and $i_{\tilde{c}}$ refer to the ideological position of the institutions involved in the legislative bargaining process, with magnitudes measured in terms of standard deviations of the status quo for all policy areas covered by the Ordinary Legislative Procedure. Our estimates imply that the European Parliament and the Council are on opposite sides of the ideological spectrum. The literature on EU politics commonly interprets the dimension of ideological conflict between institutions in terms of further EU integration, with the Parliament (i_s) being strongly in favour of pushing legislation towards further integration, while—everything else equal—the Council (i_c) supports this for a much smaller fraction of proposals. In particular, the most extreme member of the Council, who's vote is decisive in cases where a unanimous agreement is required $(i_{\tilde{c}})$ is more sceptical still. The Commission takes an ideological stance in between the Parliament and the Council, close to the median of the status quo distribution (which is normalized to zero). Under the interpretation of the ideological dimension as the demand for EU integration, the Commission favours further integration in about a third of cases. That the ideal point of the Commission lies between those of the Council and the Parliament is plausible, since the members of the Commission

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	Data	Model
First Reading		
Approval by EP	0.1050	0.1156
Commission agreement on EP amendments	0.7445	0.7217
Approval by Council conditional on		
No amendments by EP	0.9677	0.9997
EP amendments approved by Commission	0.9844	0.9984
EP amendments not approved by Commission	0.1404	0.1447
Second Reading		
Approval by EP	0.6610	0.6592
Commission agreement on EP amendments	0.7619	0.7630
Approval by Council (cond. on Com. approval)	0.8846	0.8847
Proposal fails	0.1606	0.2102

Table 3: Empirical and Predicted Moments

are nominated by member states and confirmed by the Parliament.

Institutions may be willing to deviate away from their own optimal position if a legal text improves on the status quo qualitatively. Our estimates, however, suggest that quality plays an important role only if a proposal is relatively close to an institution's ideological position. To be more precise, institutions would be willing to deviate $\sqrt{0.0974} \approx 31$ percent of a standard deviation of the status quo distribution from their ideal position in return for a piece of legislation of high quality. In comparison, if a proposal of low quality is located at a distance of one from an institution's ideal point, an increase in quality is worth a further shift in policy of only about 5 percent of a standard deviation.

According to our estimated model, the Commission is the most patient among the three institutions while the Council is by far the most impatient legislator. This seems plausible. In reality, the Council has a rotating presidency, which is taken over by a different member state every six months. This may contribute to the council having a relatively short time horizon.

To illustrate local identification of the estimated parameters by our nine moments, Figure 3 plots the (log) sum of squared distances between the choice probabilities as predicted by the model and the empirically observed decisions against each of the model's parameters. In each case, a clear minimum is obtained at the estimated parameter. To confirm local identification more formally, we

Parameter	Value	Std. Err.
i_b	-0.5373	(0.3208)
i_s	13.5819	(0.0815)
i_c	-2.3204	(0.0887)
$i_{\tilde{c}}$	-2.6126	(1.6406)
m_b	0.9850	(0.0027)
m_s	0.9643	(0.0084)
m_c	0.7809	(0.1577)
w	0.0195	(0.0359)
h	0.0974	(0.0216)

Table 4: Estimated Parameters

Notes: Standard errors in parentheses are asymptotic for parameters with unbounded support (i_b, i_s, i_c, and $i_{\tilde{c}}$), and bootstrapped for parameters with restricted support (m_b, m_s, m_c, w and h).

check that the gradient matrix of the moment vector with respect to the parameters has full rank.

6.2 The Distribution of Bargaining Power

This section uses our estimation results to determine the relative bargaining power of the three co-legislators of the European Union. From this point onwards, mention of the Council without any further qualification will refer to the Council under qualified majority, which is the predominant mode of voting in this assembly.

An obvious starting point for our analysis is to investigate how passed proposals compare in terms of their ideological component to the ideal points of the institutions. According to our model, the expected outcome of bargaining across all status quos is equal to 0.03, which is closest to the Commission, whose ideal point is located at -0.54. Nevertheless, it would be mistaken to conclude that the Commission is the most powerful legislator. The same outcome could emerge if the Commission has no influence at all, while the Council, which is also located relatively closely to the expected policy, is more powerful than the Parliament. The result that the outcome of bargaining favours the Commission would then be a mere coincidence. What the location of the expected policy does indicate though, is that the influence of the Parliament must be limited, as the expected policy is located much closer to the ideal points of the other two institutions.

As the expected policy by itself allows only limited insights, we take a closer look at what
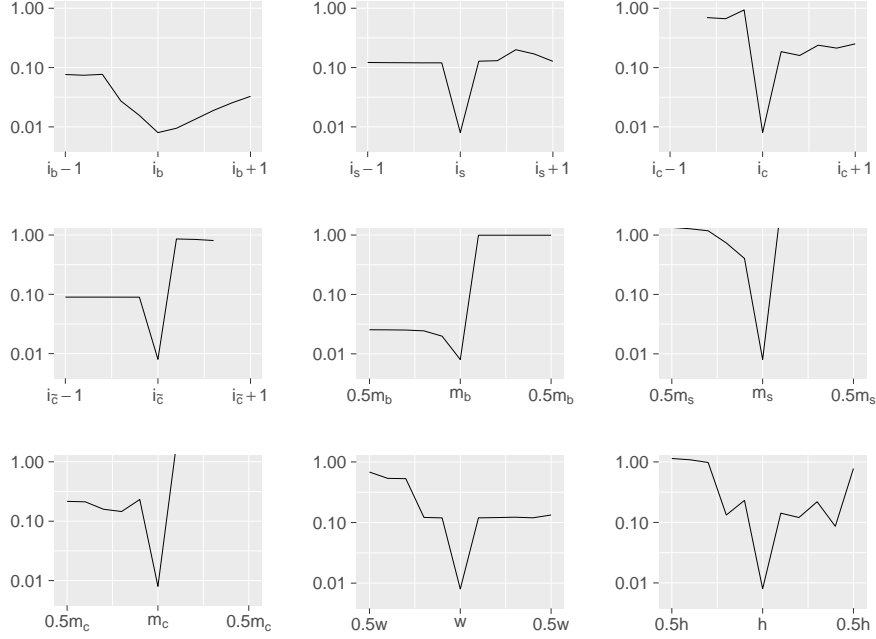
Figure 3: Local Identification

Notes: The figure displays the value of the objective function for shifts in individual parameters around the estimated parameter vector.

determines policy in the model. At a broad level, we can distinguish two forces that shape the agreed outcome: the agreement set, which limits agreements from the start to the set of points that all institutions prefer over the status quo, as well as the process of bargaining over policies *within* the agreement set. If the agreement set is large, the outcome of bargaining will be mostly determined by the process of bargaining itself. But if the agreement set is narrow, there is only a very limited effect that the process of bargaining can have on policy. As it turns out, the latter case is the most relevant one for us: Under the estimated parameter vector, the agreement set is very narrow under most possible locations of the status quo. This is a consequence of two features of the results. First of all, most status quos fall in between the ideal points of the three institutions. Whenever this is the case, there is disagreement about the direction in which policy should be shifted. As long as quality remains low, this means that agreement on any policy other than the status quo is impossible. Second, institutions place a high weight on policy rather than quality. This has the consequence that the agreement set stays limited to a narrow band around the status quo even if an increase in quality has been achieved. This is illustrated in Figure 4, which plots the
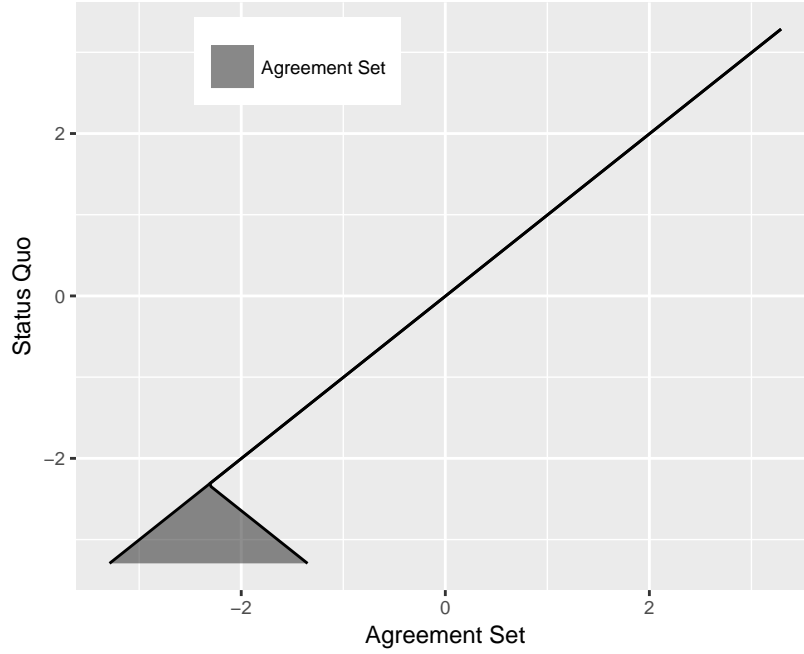
Figure 4: The Agreement Set

Notes: The figure shows the agreement set (the set of policies preferred over the status quo by all institutions) as a function of the status quo.

agreement set in case of high quality as a function of the status quo. In the figure only the status quos below the ideal point of the Council at -2.32 fall into the range where agreement is always possible.[12] It is in this region that there is room for negotiations to determine policy. However, this range applies to a relatively small set of legislative proposals, for which the status quo is at the low end of the policy spectrum.[13] For the vast majority of status quos, the policy that will result from the legislative process is effectively determined from the outset by veto rights alone. Note that this is an empirical result as the model would generate a very different picture if, for instance, the estimated ideal points were all closer together or the value of quality was higher.

Given the importance of the agreement set, the next question to ask is which institutions influence the shape of this set. In general, the bounds of the agreement set are determined by the most extreme institutions: given that legislators suffer a convex loss if policy moves away from them,

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[12]The ideal point $i_{\tilde{c}}$ of the most extreme member of the Council is not relevant for the size of the agreement set, as this player has no veto power.

[13]In terms of our preferred interpretation of the policy line as the desired degree of integration, these are legislative proposals applying to areas where very little integration has been achieve previously.

	Value	95% Conf. Interval
Commission	0.0012	[0.0003, 0.0023]
EP	0.00007	[0.00005, 0.00020]
Council (qualified majority)	0.0364	[0.0298, 0.0429]

Table 5: Estimated slopes of the expected policy with respect to ideal points

the institution with the largest ideal point will be the most reluctant to accept downward shifts in policy and vice versa. As the Commission falls in between the Council and the Parliament, this implies that the Commission has no effect on the agreement set. The Council and the Parliament, on the other hand, have a similar influence per se. However, the Council is located closer to the status quo distribution than the Parliament and can thus use its veto more effectively.

To corroborate these results, we now consider a formal measure of influence. The measure we propose is based on a simple logic: If a legislator has influence in the sense that they can shift outcomes in the direction they desire, then a change in this institution's preferences should also translate into a change in the expected policy. Accordingly, the larger the influence of an institution, the greater the slope of the expected policy with respect to this legislator's ideal point. The estimates of these slope coefficients provided in Table 5 confirm the dominance of the Council, with the Parliament and the Commission having only a negligible impact according to this measure. However, these results should not be read as saying that the Parliament and the Commission do not matter. This conclusion would only be appropriate if the Council managed to pull any proposal to its ideal point, which is clearly not the case. The small magnitudes of the coefficients in Table 5 also indicate this, as they reflect the mostly very narrow agreement sets illustrated in Figure 4.

To summarise the results presented in this section, we find that the Council has by far the strongest influence on policies. The presence of the Parliament also matters in the sense that the veto of the Parliament limits the influence of the Council. Finally, the Commission has at most a very marginal impact on policies once a proposal has been made. More generally, our results paint a picture of the legislative process of the European Union as one mostly characterized by deadlock. In most cases, legislators argue over details without moving far from the status quo. When the institutions agree that legislation should move in a particular direction, however, substantial reforms are possible.

6.3   Counterfactual Simulations

In this section we evaluate the effects of potential changes to the rules of the Ordinary Legislative Procedure. As the previous section has shown, policy outcomes are determined to an overwhelming

	Exp. Policy	Stage of Agreement				
		1st Reading	Early 2nd Reading	2nd Reading	3rd Reading	Failure
Baseline	0.0295	0.7580	0.0210	0.0096	0.0012	0.2102
No Unanimity	0.0293	0.7878	0.0015	0.0004	0.0000	0.2102
No 2nd Reading	0.0301	0.6950	-	-	0.0972	0.2078

Table 6: Counterfactual distributions over possible stages of agreement

extent by the veto power of the Council and the Parliament. Any changes to the Ordinary Legislative Procedure that leave this veto power untouched will therefore have a negligible effect on the expected policy. In what follows, we accordingly focus on the timing of agreement and the amount of effort that institutions invest in producing high-quality legislation.

A somewhat peculiar feature of the Ordinary Legislative Procedure is the fact that the Commission has the ability to force the Council to vote unanimously when it wants to accept amendments introduced by the Parliament. In contrast, the Commission also states its opinion on amendments of the Council, but this opinion has no formal impact on subsequent proceedings. This special treatment of the amendments of the Parliament seems at odds with the way that official EU publications typically describe the Council and the Parliament as equal co-legislators while simultaneously assigning a very minor role to the Commission. We use our model to simulate the removal of the ability of the Commission to influence the majority requirements in the Council. Table 6 shows the consequences of this change for the likelihood and the timing of agreement in row two, while the first row of the table contains the values predicted by the model under the original procedure. As expected, removing the influence of the Commission over the voting rules in the Council has a negligible impact on policy outcomes. This is true not only for the expected policy, but also for the amount of effort legislators invest in the quality of legislation, which is indicated by the constant share of proposals that fail. The timing of agreement, on the other hand, is affected by the removal of the ability of the Commission to force the Council to vote unanimously: We find a shift towards earlier agreement. In fact, among the proposals that do not fail, almost all negotiations are concluded at first reading after the change to the protocol.

The second change to the Ordinary Legislative Procedure that we investigate is the complete removal of the second reading. As we argued in section 5.1, the second reading is unlikely to yield improvements in the quality of a proposal and we accordingly ruled this out in our model.

Combined with the previously made observation that the institutions bargain over small changes in the ideological component of a law, this makes delays in agreement during the second reading seem highly inefficient. Removing some of the steps that are currently part of the second reading may, however, also affect decisions during the first reading in ways that are difficult to predict. Our equilibrium model is well suited for investigating such effects. To be specific, the change that we want to analyse is a drastic shortening of the bargaining protocol, where a rejection of the first-reading position of the Parliament by the Council immediately leads to the convening of the Conciliation Committee. The consequences that our model predicts are given in row three of Table 6. Again, policy outcomes remain basically unchanged. The shortening of the procedure naturally affects the timing of agreement though. The mechanical effect of removing some of the stages is, however, at least partially offset by a reduction in the likelihood of first-reading agreements. While the Conciliation Committee typically requires only a short amount of time to reach a result, removing the influence of the Commission on voting in the Council provides a more clear-cut way to shorten the length of the legislative process. The latter change also has the advantage of representing a less radical departure from the protocol of the Ordinary Legislative Procedure in its current version.

It is the case though that past increases in the prevalence of first reading agreements have not been universally lauded. The reason is that concluding the process at the earliest possible stage requires negotiations in small circles among representatives of the institutions, namely the aforementioned trilogues. This is frequently criticised as reducing the transparency of the process, as well as reducing the role of plenary sessions of the Parliament to a mere rubber-stamping of previously made agreements. This criticism is therefore directed at the increased use of trilogues to reach agreement, rather than at the reduction in the time it takes to pass a law per se.

6.4   The Quality of Legislation

We now investigate what our results imply for the quality of legislation that the European Union produces. Under the estimated parameter vector about 79 percent of proposals are of higher quality than the status quo by the end of the legislative process. As almost all of the remaining proposals are abandoned, close to 100 percent of passed laws improve in quality on the status quo. This high level of quality is predominantly driven by the Parliament. The Commission generates a proposal of high quality in about 13 percent of cases. Conditional on being confronted with such a proposal, the Parliament achieves an increase in quality with an average probability of 0.76. The Council, on the other hand, never invests in quality. To understand these numbers, we can apply the decomposition of the value of quality as discussed in section 5.2. The relative magnitudes of the different components are given in Table 7 and demonstrate that the consumption value of quality is not the predominant driver of investments in quality. The Commission as the most patient player

	Total Value of Quality	Consumption Value	Hold-Up	Free-Riding
Commission	5.5%	25.0%	1.3%	-20.8%
European Parliament	94.4%	10.5%	84.0%	0.0%
Council	0.1%	1.7%	-1.6%	0.0%
Sum	100%	37.2%	83.7%	-20.8%

Table 7: Decomposition of the Value of Quality

values quality itself most highly, but free-rides on the efforts of the Parliament. The value of quality to the Parliament, on the other hand, is almost entirely instrumental. An increase in quality enables the Parliament to pull policy in its preferred direction due to the high weight of the Parliament in the Conciliation Committee. While this shift is small compared to the distance between ideal points, it is valued highly by the Parliament. In fact, this shift benefits the Parliament much more than it hurts the Council due to the concavity of utility in policy and the fact that the agreed policy is generally much further from the ideal point of the Parliament than it is from the ideal point of the Council. This problem of hold-up that the Council faces combined with its impatience explain why the Council does not invest in quality.

The effect of quality on subsequent bargaining that drives the effort choice of the Parliament is strong enough to raise the overall probability that the legislative process produces a proposal of high quality relative to the case where hold-up and free-riding are eliminated.[14] In the latter case about 75 percent of proposals experience an increase in quality, compared to 79 percent in the baseline described above. Removing hold-up results in a sharp drop in the effort that the Parliament invests, but this is mostly compensated by increased effort of the Commission due to the removal of free-riding.

7   Robustness

In this section we consider a number of additional issues that were not at the centre of the analysis presented so far.

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[14]We calculate the investments in the absence of free-riding and hold-up by setting the continuation value in case an institution generates high quality equal to the continuation value in case of low quality plus the consumption value of quality.

7.1 Cross-Proposal Deals

An empirical concern in our setting is the possibility that institutions cut deals that involve multiple proposals. Suppose, for example, that the Parliament cares strongly about some proposal A while the Council attaches a higher importance to some other proposal B. In this case there may be scope for a deal where the agreed text on proposal A favours the Parliament, which agrees to move in the direction of the Council on proposal B in return. If such deals occur this introduces auto-correlation in the data, with agreement happening simultaneously on multiple proposals. Packages that include multiple proposals which are voted on simultaneously explicitly allow for this broader form of bargaining. We thus do not treat such proposals as separate observations (see Section 4). To verify whether there is auto-correlation even after removing packages from the data, we calculate coefficients of auto-correlation[15] up to the tenth order for first-reading decisions of the Parliament, the Commission, and the Council.[16] Table 8 lists the results. We do not find any systematic correlation pattern[17], with only two out of 30 coefficients significantly different from zero at the 95 percent level (indicated by bold numbers). This alleviates our concerns that legislative deals involving multiple proposals are a common occurrence.

7.2 End-of-Term Effects

Elections of the European Parliament raise the possibility of changes in the size of parliamentary factions and also mark the date when a new Commission is selected. The associated uncertainty may affect the behaviour of legislators in the run up to the election. Indeed, we observe a noticeable increase in activity in our dataset during the final year of the seventh term. We therefore investigate the effects of excluding this period from the data. The resulting choice probabilities are shown in column 2 of Table 9, while column 1 replicates the ones we use for estimation. Most moments barely differ between the two columns and drastic changes are entirely absent. The cases where a noticeable difference does exist do not show a clear pattern of agreement becoming more likely towards the end of the term, as should be expected if the approaching election makes legislators more willing to compromise.

7.3 Changes in the Composition of the Council

The memberships of the European Parliament and the Commission are largely stable in between elections for the European Parliament. The composition of the Council, on the other hand, po-

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[15]The order of the observations is determined by the date at which the Commission introduced the proposal for this purpose.

[16]In the case of the Commission the decision we consider is therefore the opinion on amendments introduced by the Parliament in the first reading.

[17]In contrast, there is a strong and statistically significant auto-correlation in the full dataset prior to the removal of packages.

Order	EP	Commission	Council
1st	0.045	0.063	0.082
2nd	0.068	0.045	0.042
3rd	0.070	0.044	-0.012
4th	**0.098**	-0.087	-0.010
5th	0.003	-0.017	0.089
6th	0.032	0.020	-0.030
7th	-0.012	-0.057	0.049
8th	-0.037	0.065	0.009
9th	0.012	**0.185**	0.068
10th	0.014	0.051	0.088

Table 8: Auto-correlations in first reading decisions

Notes: Significance at the 95 percent level is indicated by bold entries.

tentially changes every time national elections are held in a member state. As countries with a higher population are given a greater weight[18] in the Council, elections in large member states are particularly likely to affect the behaviour of the Council.

The French presidential elections of 2012 lead to a change in the ruling party, with François Hollande replacing Nicolas Sarkozy as president. Since France is one of the most populous members of the EU and the election took place in the middle of the seventh term of the European Parliament we consider this the most likely case in which a change in the voting behaviour of different EU institutions could be detected empirically. The third and fourth columns of Table 9 present choice probabilities calculated based on samples restricted to the periods before and after the decisive second round of the elections on April 6th 2012, respectively.

The behaviour of the Commission and the Council when voting under qualified majority is largely the same across both periods. Stronger changes are observable in the choices of the Parliament and the Council voting unanimously. A comparison to the second column of the table seems to indicate though that these differences are mostly driven by the final year of the term, as the probabilities prior to the French election are fairly close to those calculated for the first four years of the term. Overall the French elections seems to affect behaviour remarkably little.

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[18]During the period under consideration each member state was given a number of votes in the Council roughly proportional to the population size. A qualified majority required a majority of votes cast as well as at least 15 out of 28 member states voting in favour.

	(1)	(2)	(3)	(4)	(5)
First Reading					
Approval by EP	0.105	0.1481	0.1698	0.0705	0.109
	(457)	(243)	(159)	(298)	(413)
Commission agreement on EP amendments	0.7445	0.7379	0.7692	0.7273	0.7317
	(317)	(206)	(130)	(187)	(287)
Approval by Council conditional on					
No amendments by EP	0.9677	0.9623	0.9545	1	0.9667
	(62)	(53)	(44)	(18)	(60)
EP amendments approved by Commission	0.9844	0.9839	0.985	0.984	0.9823
	(320)	(186)	(133)	(187)	(283)
EP amendments not approved by Commission	0.1404	0.0789	0.0645	0.2308	0.1273
	(57)	(38)	(31)	(26)	(55)
Second reading					
Approval by EP	0.661	0.5	0.5143	0.875	0.6552
	(59)	(40)	(35)	(24)	(58)
Commission agreement on EP amendments	0.7619	0.8	0.7647	0.75	0.7619
	(21)	(20)	(17)	(4)	(21)
Approval by Council conditional on					
EP amendments approved by Commission	0.8846	0.92	0.9048	0.8	0.8846
	(26)	(25)	(21)	(5)	(26)
EP amendments not approved by Commission	0	0	0	NaN	0
	(4)	(4)	(4)	(0)	(4)
Proposal fails	0.1606	0.1606	0.1606	-	0.1734
	(193)	(193)	(193)		(173)

Table 9: Probability of decisions on legislative proposals in various subsets of the data

Notes: The number of observations that each probability is based on are given in parenthesis. Column 1 uses all decisions taken during the seventh term of the European. Column 2 excludes the final year of the term. Column 3 focuses on the period prior to the second round of the French presidential elections of 2012, while column 4 considers only decisions taken after this event. Column 5 excludes any proposals that fell within the responsibility of the parliamentary Committee on Economic and Monetary Affairs.

7.4 The European Sovereign Debt Crisis

We based our analysis on data from the seventh term of the European Parliament, which coincides with the European sovereign debt crisis ensuing in 2009. This raises the possibility that our data contains a number of proposals that were developed in response to the crisis and were associated with an unusual pressure to reach agreement quickly. Such texts would be dealt with by the Parliamentary Committee on Economic and Monetary Affairs (ECON). In order to determine whether

this issue affects our results we investigate the consequences of excluding all proposals under the responsibility of the ECON committee from the data. While the EUR-Lex database does not record committee assignments, we reconstruct this information by scraping the pages of the Legislative Observatory of the European Parliament[19]. As the fifth column of Table 9 indicates, excluding the proposals associated with the ECON committee has little effect.

7.5 Distinguishing Proposals by Subject Area

While the model we use for estimation allows proposals to differ in terms of the status quo, we did not distinguish between different types of proposals in the data. One way to do so would be to use the information mentioned in the previous section on which parliamentary committee was in charge of a legislative text. These committees specialise in certain subject areas such as fisheries or transport and tourism. During the seventh term of the European Parliament there were 20 such bodies. Tables 10 and 11 in Appendix B disaggregate voting outcomes to the committees assigned to the respective proposals. We list all committees that were assigned at least ten proposals during the first-reading of the Parliament. Even so, many of the probabilities presented in the table are based on a very small number of observations or missing entirely, particularly during the second reading. Focusing on the choices that occur most frequently, namely the first reading decisions of the Parliament, the Commission, and the Council after amendments of the Parliament have been accepted by the Commission, we find a clear common pattern. The Parliament amends the initial proposal of the Commission in a majority of cases, typically accepting no more than ten percent of drafts as they are. The amendments that the Parliament proposes subsequently are likely to be accepted by the Commission—there are only two committees where amendments are accepted in less than 70 percent of cases. Conditional on agreement by the Commission the Council accepts the amended proposal it receives from the Parliament in at least 95 percent of all cases. This relatively stable pattern across policy areas justifies our use of aggregate moments in the estimation, which are also more precisely measured than the probabilities presented in Tables 10 and 11.

8 Conclusion

This paper contributes both to the theoretical and the empirical literature on legislative bargaining by formulating and structurally estimating a dynamic model of law-making in the European Union. To identify the model's parameters we use the choice probabilities corresponding to the universe of legislative proposals discussed under the Ordinary Legislative Procedure during the most recent complete parliamentary term.

Our results do not confirm the often-voiced criticism that the European Commission has a

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[19]http://www.europarl.europa.eu/oeil/

dominant influence on the laws passed by the European Union. Instead, we find that outcomes are largely driven by the ability of the Council of the EU and the European Parliament to veto proposals. As the veto-rights of the European Parliament have been officially recognised ever since the Treaty of Amsterdam (Hix 2002), the Council and the Parliament have the same influence de jure. However, the veto of the Council is more effective as the Council is typically located closer to the status quo. Our results therefore indicate that the Council is de facto the most powerful legislator.

According to our findings, any changes to the Ordinary Legislative Procedure that leave veto rights untouched will not have a significant effect on policy outcomes. The length of the legislative process, in contrast, may be affected by a modification of the bargaining protocol. We show that removing the ability of the Commission to influence the majority requirements in the Council would be a particularly effective way to reduce the time it takes to pass a law.

An innovative feature of our model is that institutions not only decide on accepting a given proposal and on the amendments to make after rejecting, but also on investing effort into the quality of a law. In recent years, the European Union has started initiatives such as the Interinstitutional Agreement on Better Law-Making that aim particularly at enhancing the quality of European legislation. We find that it is primarily the European Parliament that invests into quality, mainly because this allows the Parliament to extract some surplus from the otherwise more influential Council.

This paper presents a first attempt at using an estimated structural model to evaluate the effects of counterfactual changes to the institutional setup of the European Union. We see two promising avenues for future research in this direction: First, the inclusion of additional data based on legal texts themselves as well as amendments made can be used to give a clearer interpretation to the ideological dimension of legislative proposals. Second, using data on the composition of the Council and the Parliament as well as the voting behaviour by their members can connect our model more closely to existing studies of intra-institutional bargaining. Finally, we believe that our approach can also be fruitfully applied to other legislative processes such as those of national parliaments.

Appendix

A Optimal Effort Choices and Accept-Reject Decisions

This appendix provides characterisations of optimal effort choices and accept-reject decisions in equilibrium. We turn to effort choices first, as solving for optimal effort is a prerequisite for the analysis of accept-reject decisions.

Proposition 1. *Conditional on subsequent play, the effort choice of any institution z in period t has a unique solution e_z^* that is equal to zero if*

$$H'(0) \; \delta_{z,t} \; [V_{z,t+1}(h) - V_{z,t+1}(0)] \leq 1$$

and implicitly defined by the condition

$$H'(e_z^*) \; \delta_{z,t} \; [V_{z,t+1}(h) - V_{z,t+1}(0)] = 1$$

otherwise. Furthermore, the value function of this maximisation problem is convex in $\delta_{z,t}$.

Proof. The utility of institution z in period t from choosing effort level e_z at the point where the institution has already rejected the proposal previously on the table can be written as

$$- (p_o - i_z)^2 + \delta_{z,t} \; [H(e_z) \; V_{z,t+1}(h) + (1 - H(e_z)) \; V_{z,t+1}(0)] \; - \; e_z \; . \tag{1}$$

Maximising this function with respect to e_z is equivalent to maximising

$$H(e_z) \; \delta_{z,t} \; [V_{z,t+1}(h) - V_{z,t+1}(0)] \; - \; e_z \; .$$

As H is strictly concave and $e_z \geq 0$, the optimal level of effort e_z^* is either equal to zero if

$$H'(0) \; \delta_{z,t} \; [V_{z,t+1}(h) - V_{z,t+1}(0)] \leq 1 \tag{2}$$

or defined by the first order condition

$$H'(e_z^*) \; \delta_{z,t} \; [V_{z,t+1}(h) - V_{z,t+1}(0)] = 1 \; . \tag{3}$$

Note that an interior solution requires that the difference $V_{z,t+1}(h) - V_{z,t+1}(0)$ is positive as H is increasing by assumption.

By the envelope theorem the derivative of the value function

$$-(p_o - i_z)^2 + \delta_{z,t} \; [H(e_z^*) \; V_{z,t+1}(h) + (1 - H(e_z^*)) \; V_{z,t+1}(0)] \; - \; e_z^*$$

with respect to $\delta_{z,t}$ at any interior solution is equal to

$$H(e_z^*) \; V_{z,t+1}(h) + (1 - H(e_z^*)) \; V_{z,t+1}(0) \; . \tag{4}$$

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Differentiating again with respect to $\delta_{z,t}$ yields

$$H'(e_z^*) \frac{de_z^*}{d\delta_{z,t}} \left[V_{z,t+1}(h) - V_{z,t+1}(0) \right] .$$

As H is increasing and the first order condition (3) requires $V_{z,t+1}(h) - V_{z,t+1}(0)$ to be positive, the sign of the second derivative of the value function is determined by the sign of the derivative of e_z^* with respect to $\delta_{z,t}$. A straightforward application of the implicit function theorem demonstrates that this derivative is positive. The value function is therefore convex in $\delta_{z,t}$ at any interior solution.

At the corner solution $e_z^* = 0$, on the other hand, the value function is linear in $\delta_{z,t}$ with first derivative $V_{z,t+1}(0)$ as $H(0) = 0$. To show that the value function is convex in $\delta_{z,t}$ on the interval $[0, \infty]$ it therefore suffices to show that the derivative (4) converges to $V_{z,t+1}(0)$ as $\delta_{z,t}$ approaches the point δ_0 where condition (2) holds with equality from above. As the objective function (1) is strictly concave in e_z due to the strict concavity of H, the theorem of the maximum implies that e_z^* is continuous in $\delta_{z,t}$. Accordingly, e_z^* converges to zero as $\delta_{z,t}$ approaches δ_0. Combined with the continuity of H this implies

$$\lim_{\delta_{z,t} \to \delta_0^+} H(e_z^*(\delta_{z,t})) \, V_{z,t+1}(h) + (1 - H(e_z^*)) \, V_{z,t+1}(0) = V_{z,t+1}(0) . \qquad \Box$$

The following proposition shows that the solutions to all accept-reject decisions by the Parliament and the Council are given by a simple cut-off rule on the discount factor of the institution in question that applies in the period of the decision.

Proposition 2. *Consider the choice of institution $z \in \{s, c, \tilde{c}\}$ in period t to accept or reject the current proposal. Conditional on the proposal on the table as well as subsequent play, there exists a unique threshold $\bar{\delta}_{z,t}$ such that institution z rejects the proposal if and only if $\delta_{z,t} > \bar{\delta}_{z,t}$.*

Proof. Suppose institution $z \in \{s, c, \tilde{c}\}$ has to decide in period t if it wants to accept or reject the current proposal given by (p, q). Expressed most generally, the utility in case of rejection can be written as

$$\begin{aligned} &-(p_o - i_z)^2 - e^*(\delta_{z,t}) \\ &+ \delta_{z,t}[H^*(\delta_{z,t}) \, V_{z,t+1}(h) \ + \ (1 - H^*(\delta_{z,t})) \, V_{z,t+1}(0)] , \end{aligned} \tag{5}$$

with

$$H^*(\delta_{z,t}) = \begin{cases} 0 & \text{if the first reading has ended and } q = 0, \\ 1 & \text{if } q = h, \\ H(e^*(\delta_{z,t})) & \text{otherwise.} \end{cases}$$

Whenever $H^*(\delta_{z,t})$ is equal to zero or one for all $\delta_{z,t}$, expression (5) is linear in $\delta_{z,t}$. Otherwise expression (5) is convex in $\delta_{z,t}$ by Proposition 1. The utility in case of acceptance, on the other hand, can be written as

$$\begin{aligned} &P_{c,t}^* \left[-(p - i_z)^2 \ + \ q \ + \ \delta_{z,t} \, (-(p - i_z)^2 \ + \ q)/(1 - m_z) \right] \\ &+ (1 - P_{c,t}^*) \left[-(p_o - i_z)^2 \ + \ \delta_{z,t} \, \mathrm{E}_t[V_{z,t}(q')] \right] , \end{aligned} \tag{6}$$

where $P_{c,t}^*$ is equal to one unless the decision under consideration is the choice of the Parliament to accept the initial draft of the Commission in the first reading. In the latter case acceptance by the Parliament

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only leads to adoption of the proposal if the Council also agrees and $P_{c,t}^*$ is equal to the probability that the Council will do so.

For $\delta_{z,t} = 0$, expression (5) simplifies to $-(p_o - i_z)^2$ while expression (6) becomes

$$P_{c,t}^* \left[-(p - i_z)^2 + q \right] + (1 - P_{c,t}^*) \left[-(p_o - i_z)^2 \right] .$$

As any proposal must belong to the agreement set, the per-period utility in case of acceptance $-(p - i_z)^2 + q$ must be at least as large as the per-period utility $-(p_o - i_z)^2$ if the status quo remains in place. For $\delta_{z,t} = 0$ the utility of accepting must therefore be at least as large as the utility of rejecting. Combined with the linearity of the utility of acceptance and the convexity of the utility of rejection in $\delta_{z,t}$, this implies that both functions intersect at most once for $\delta_{z,t} \in (0, \infty)$. If no such point $\bar{\delta}_{z,t}$ of intersection exists, set $\bar{\delta}_{z,t} = \infty$. Rejection must be strictly preferred for $\delta_{z,t} > \bar{\delta}_{z,t}$ while acceptance is at least weakly preferred for $\delta_{z,t} \in [0, \bar{\delta}_{z,t}]$. $\qquad \square$

The decision of the Commission to accept or reject proposals made by the Parliament also follows a cut-off rule.

Proposition 3. *Consider the choice of the Commission in period t to accept or reject the amendments of the Parliament. Conditional on the proposal of the Parliament as well as subsequent play, there exists a unique threshold $\bar{\delta}_{b,t}$ that characterises the equilibrium strategy of the Commission: Let $P_{z,t}^*$ for $z \in \{c, \tilde{c}\}$ be the probability that the Council accepts the proposal on the table in period t under qualified majority and unanimity, respectively. If $P_{c,t}^* \geq P_{\tilde{c},t}^*$, the Commission accepts if and only if $\delta_{b,t} \leq \bar{\delta}_{b,t}$. If $P_{c,t}^* < P_{\tilde{c},t}^*$, the Commission accepts if and only if $\delta_{b,t} \geq \bar{\delta}_{b,t}$.*

Proof. The utility of the Commission if it accepts a proposal (p, q) of the Parliament in period t is given by

$$
\begin{aligned}
& P_{c,t}^* \left[-(p - i_b)^2 + q + \delta_{b,t} \left(-(p - i_b)^2 + q \right)/(1 - m_b) \right] \\
& + (1 - P_{c,t}^*) \left[-(p_o - i_b)^2 + \delta_{b,t} \, \mathrm{E}_t[V_{b,t}(q')] \right] ,
\end{aligned}
\tag{7}
$$

where $P_{z,t}^*$ is the probability that institution z accepts the proposal in period t. The utility in case the Commission rejects, on the other hand, is obtained by replacing $P_{c,t}^*$ by $P_{\tilde{c},t}^*$ in expression (7). Both utilities are therefore linear in $\delta_{b,t}$ and intersect at most once. If no such point $\bar{\delta}_{b,t}$ of intersection exists, the Commission would prefer the proposal to pass. To see this, set $\delta_{b,t}$ to zero. In this case the Commission cares only about the current period and as any proposal must belong to the agreement set, the Commission prefers the current proposal over the status quo. The Commision then accepts if the Council is at least as likely to accept the proposal under qualified majority as under unanimity and rejects otherwise. Accordingly, set $\bar{\delta}_{b,t} = \infty$ if $P_{c,t}^* \geq P_{\tilde{c},t}^*$ and set $\bar{\delta}_{b,t} = -\infty$ otherwise. The equilibrium strategy of the Commission can then be summarized as follows: If $P_{c,t}^* \geq P_{\tilde{c},t}^*$, the Commission accepts if and only if $\delta_{b,t} \leq \bar{\delta}_{b,t}$. If $P_{c,t}^* < P_{\tilde{c},t}^*$, the Commission accepts if and only if $\delta_{b,t} \geq \bar{\delta}_{b,t}$. $\qquad \square$

B   Choice Probabilities Computed by Responsible Committee

	AGRI	ECON	EMPL	ENVI	IMCO	INTA
First Reading						
Approval by EP	0.0333	0.0682	0.0556	0.0312	0.037	0.2609
	(30)	(44)	(18)	(64)	(27)	(46)
Com. agreement on EP amendments	0.7826	0.8667	1	0.766	0.7895	0.75
	(23)	(30)	(13)	(47)	(19)	(28)
Approval by Coun. conditional on						
No amendments by EP	1	1	NaN	1	1	0.9167
	(1)	(2)	(0)	(2)	(1)	(12)
EP amendments approved by Com.	0.9565	1	1	1	1	0.9583
	(23)	(38)	(17)	(50)	(22)	(24)
EP amendments not approved by Com.	0	0.5	0.5	0.2	0	0
	(1)	(2)	(2)	(10)	(3)	(6)
Second reading						
Approval by EP	0	0	0	0.75	0.6667	0.125
	(3)	(1)	(2)	(8)	(3)	(8)
Com. agreement on EP amendments	NaN	NaN	NaN	0.8571	1	1
	(0)	(0)	(0)	(7)	(2)	(1)
Approval by Coun. conditional on						
EP amendments approved by Com.	NaN	NaN	1	1	1	1
	(0)	(0)	(2)	(8)	(2)	(1)
EP amendments not approved by Com.	NaN	NaN	NaN	NaN	NaN	NaN
	(0)	(0)	(0)	(0)	(0)	(0)
Proposal fails	0.375	0.05	0.2	0.05	0	0.0556
	(16)	(20)	(5)	(20)	(8)	(18)

Table 10: Probability of decisions on legislative proposals during the seventh term of the European Parliament by committee - Part 1

Notes: Numbers of observations are given in parenthesis. The following acronyms are used in the table: AGRI - Agriculture and Rural Development, ECON - Economic and Monetary Affairs, EMPL - Employment and Social Affairs, ENVI - Environment, Public Health and Food Safety, IMCO - Internal Market and Consumer Protection, INTA - International Trade.

	ITRE	JURI	LIBE	PECH	TRAN
First Reading					
Approval by EP	0.0345	0.3913	0.102	0.0278	0
	(29)	(46)	(49)	(36)	(34)
Com. agreement on EP amendments	0.9524	0.7083	0.7941	0.3636	0.5909
	(21)	(24)	(34)	(33)	(22)
Approval by Coun. conditional on					
No amendments by EP	1	1	0.8333	1	NaN
	(1)	(33)	(6)	(1)	(0)
EP amendments approved by Com.	1	0.9565	1	1	1
	(31)	(23)	(33)	(14)	(19)
EP amendments not approved by Com.	0	1	0.1667	0.3333	0
	(4)	(1)	(6)	(6)	(8)
Second reading					
Approval by EP	0	1	0	0	0.5
	(4)	(1)	(6)	(4)	(8)
Com. agreement on EP amendments	NaN	1	NaN	NaN	1
	(0)	(1)	(0)	(0)	(4)
Approval by Coun. conditional on					
EP amendments approved by Com.	1	1	NaN	NaN	1
	(2)	(1)	(0)	(0)	(6)
EP amendments not approved by Com.	NaN	NaN	NaN	NaN	NaN
	(0)	(0)	(0)	(0)	(0)
Proposal fails	0	0.3824	0.0769	0.2	0.1
	(10)	(34)	(26)	(10)	(10)

Table 11: Probability of decisions on legislative proposals during the seventh term of the European Parliament by committee - Part 2

Notes: Numbers of observations are given in parenthesis. The following acronyms are used in the table: ITRE - Industry, Research and Energy, JURI - Legal Affairs, LIBE - Civil Liberties, Justice and Home Affairs, PECH - Fisheries, TRAN - Transport and Tourism.

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