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 estimating a dynamic model of the legislative process of the European Union. An innovative feature of this model is that legislators can invest effort into the quality of the proposal being debated. We show analytically that the incentives to invest are reduced by delay in agreement and free-riding. More importantly, an increase in quality affects the subsequent bargaining over the ideological location of the proposal, boosting the investment of the institutions that are able to appropriate a share of the surplus.

The estimated model shows that the most powerful forces shaping policy are the veto rights of the Council and the Parliament, while the Commission is the least influential institution. Furthermore, the Council is located closer to the status quo than the Parliament, enabling the Council to use its veto to achieve favourable outcomes. While increases in quality result only in small shifts of the agreed policy along the ideological dimension, these shifts favour the Parliament. As a consequence, the Parliament invests most heavily in quality. As proposals that do not improve in quality on the status quo are likely to be abandoned, we find that the quality of passed laws is high on average.

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1 Introduction

The European Union is in crisis. As the scope of European legislation continues to widen, a growing 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 European Council. And while the Commission is indeed a highly bureaucratic organisation, both the Parliament and the Council are democratically legitimised. 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 relative 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 estimate the parameters of the model based on data describing the timing of events 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 then allows us to gain insights into the distribution of power among the Commission, the Parliament, and the Council.

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. A particular innovation in our model is that legislators not only bargain over laws along an ideological dimension, but also decide how much effort to invest in producing legislation of high quality. Poorly written laws are a source of frustration for citizens. For example, fishing quotas were introduced by the EU to reduce problems of overfishing. As quotas were assessed once a ship reaches the harbour, this lead to fishing boats dropping large quantities of dead fish back into the ocean while still out at sea. Avoiding such unintended consequences is particularly challenging in the context of the EU, where laws apply uniformly to member states with different legal systems.

The institutions of the EU themselves recognize this problem and have started multiple initiatives aimed at improving the quality of law-making such as the Interinstitutional Agreements on Better Law-Making of 2003 and 2016.

As unintended consequences are not in the interest of any law-maker, we model quality as a public good. We show that the incentives to invest effort are driven by three separate effects in the model. The first one is free-riding: subsequent investments by other institutions increase the expected utility of not investing today, lowering effort. The second effect is delay in agreement, which also has a negative sign, as the high quality associated with a proposal can only be enjoyed once agreement has been reached. Third, an increase in quality affects bargaining over policies and can enable an institution to shift the agreed policy in its preferred direction. This can magnify the incentives to invest relative to the hypothetical situation where this bargaining effect is absent. The downside is that the effort of disadvantaged legislators is accordingly reduced, who face a problem of hold-up in the language of the bargaining literature.

We then 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. This is because institutions rarely agree about the direction in which policy should be moved and use their veto to prevent any changes they disagree with. In most cases any large shifts away from the status quo are therefore 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 rather limited impact on proceedings. Among the Parliament and the Council, on the other hand, the Council is favoured by typically being located much closer to the status quo than the Parliament. While both of these institutions matter for policies, actual outcomes thus favour the Council, which emerges as the most influential institution.

A second 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

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over the status quo. This is less true at the proposal stage, but proposals of low quality are likely to fail. The Parliament invests most strongly in effort among the three institutions, and this is largely due to the aforementioned bargaining effect. In fact, the increase in the effort of the Parliament overcompensates the reduced effort of the Commission and the Council: If we eliminate the bargaining effect, average quality drops. This is possible as the bargaining effect does not affect all players symmetrically.

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. We illustrate this through two counterfactual simulations. In the first experiment we remove the ability of the Commission to influence the majority requirements in the Council. A superficial look at the data seems to indicate that this function of the Commission is an important feature of the process. The second change we simulate is a shortening 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. Shortening the second reading even fails to notably shorten the time that it takes to pass a law, as the bulk of laws is passed during the first reading anyway. These results strongly suggest that changes to the Ordinary Legislative Procedure should not be a priority and reform efforts should be directed elsewhere.

The complaints often voiced by critics of the European Union about an all-too-powerful European Commission that imposes burdensome laws on citizens are 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, our results suggest that the Parliament's ability to veto proposals put it on equal footing with the Council at least on a formal level.

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 4 describes the dataset we use and provides a descriptive account of lawmaking in the EU. The model is presented in section 5.2, which also contains our theoretical results. 6 explains how we estimate the parameters of the model and presents the empirical results. Section 7 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, which have been both of a theoretical and an empirical nature. Theoretical contributions 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 are, however, likely to 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 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 calibrate a simple model of EU decision-making, where the policy that legislators agree on is a weighted average of each of their positions. These studies tend to find that the Council is the most powerful institution.

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 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[1] or include investment decisions.

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[1]To the best of our knowledge, multiple observable stages of bargaining have previously

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 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.

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

only been a feature of experimental data. See, for example, Nunnari & Zapal (2016) and the papers cited therein.
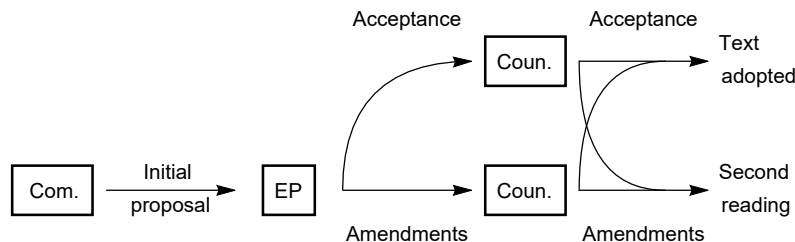
Figure 1: Timing of the Ordinary Legislative Procedure - First Reading

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.

The Commission has an official role beyond drafting the initial proposal and participating 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
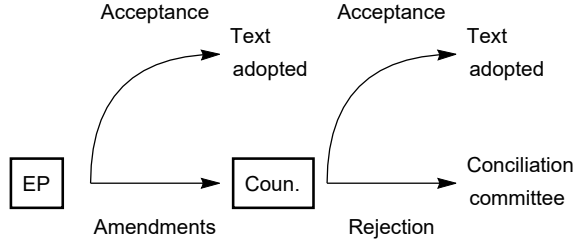
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Figure 2: Timing of the Ordinary Legislative Procedure - Second Reading

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[2] 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. Importantly, agreements reached during trilogues are binding, in the sense that negotiators guarantee 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 official 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.

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

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

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 decisions 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 each proposal belonging to a package are taken in parallel. After correcting for this issues,[3] we are left with 623 independent proposals.

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 want to 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.[4] 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.[5]

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[3]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.

[4]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. 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.

[5]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

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	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	321
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

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

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.

	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

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 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 and presents some theoretical results.

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). 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.

The legislative process is modelled as a game with an infinite time horizon, but all decisions are taken in the first four periods. The game starts with the introduction of a new legislative proposal by 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 an institution $z \in \{b, c, \tilde{c}, s\}$ is given by

$$u_z(\mathbf{p_T}, \mathbf{q_T}, \boldsymbol{e_{z,t}}, \boldsymbol{\delta_{z,t}}) = \sum_{T=0}^{\infty} \prod_{t=0}^{T} \delta_{z,t} \left(-(p_T - i_z)^2 + q_T - e_{z,T} \right),$$

where $\mathbf{p_T}$, $\mathbf{q_T}$, $\boldsymbol{e_{z,t}}$, and $\boldsymbol{\delta_{z,t}}$ are infinite sequences of policies, quality-levels, effort choices, and discount factors, while i_z is the ideal point of institution z. 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.

The discount factor $\delta_{z,t}$ of institution z in a given period t is drawn independently from a distribution F_z with mean m_z at the beginning of the period and is private information of the respective institution. In reality, 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, but 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 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 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.[6]

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 as a black box and assume that there is a parameter w that determines how the Parliament and the Council split the available surplus. In more detail, let $A_z(p_o, q)$ be the set of policies that institution z prefers over the status quo p_o, given that quality is equal to q. Define $A(p_o, q) = \bigcap_{z \in \{b,s,c\}} A_z(p_o, q)$. Apart from the most extreme member of the Council, each institution has the ability to veto any proposal. $A(p_o, q)$ is therefore the set of possible points of agreement on the ideological dimension given the status quo and the quality level. Accordingly, we will refer to $A(p_o, q)$ as the agreement set. The most preferred point of institution z in this set is equal to

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

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

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[6]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.

institution has made a new offer. As the game features incomplete information and sequential moves we employ the equilibrium concept of Perfect Bayesian equilibrium.

5.2 Theoretical Results

The assumption that discount factors are drawn independently each period implies that players never update any beliefs that are relevant for their decisions. For example, observing that the Parliament rejects policy p_0 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 $V_{z,t}(p, \hat{q}, a)$ the continuation value in equilibrium at the beginning of period $t \geq 1$ for institution z if the previous period ended with disagreement and the proposal currently on the table is given by $(p, \hat{q})$. The additional state variable a is equal to one if the Parliament accepted the initial proposal by the Commission in period 0 and equal to zero otherwise. Since the proposal is forwarded to the Council within the same period if Parliament has accepted, keeping track of this choice is important.

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. Consider first the situation of an institution that has to decide whether to accept or reject a proposal $(p_T, \hat{q})$. In case quality is high or the first reading has already ended, the expected utility if the proposal is accepted is equal to

$$-(p_T - i_z)^2 + \hat{q} + \frac{\delta_{z,t}}{1 - m_z}(-(p_T - iz)^2 + \hat{q})$$

while rejection yields

$$-(p_o - i_z)^2 + \delta_{z,t} \ V_{z,t+1}(p_{T+1}, \hat{q}, a) \ .$$

As each institution has veto power, the ideological component of any proposal must belong to the set $A(p_o, \hat{q})$ of policies that each institution prefers over the status quo. A perfectly impatient legislator $(\delta_{z,t} = 0)$ would therefore always

accept the current offer. A sufficiently patient player, on the other hand, might be willing to delay agreement if there is a chance that a more attractive proposal will be accepted in future periods such that

$$V_{z,t+1}(p_{T+1}, \hat{q}, a) \; > \; \frac{1}{1 - m_z}(-(p_T - iz)^2 + \hat{q}) \; .$$

If the difference between these continuation values is sufficiently large, there exists a cutoff such that the current offer will be rejected if the discount factor of the deciding institution falls above the cutoff. The same logic applies if quality is low and there is still the possibility that high quality can be achieved in the future. However, in this case the payoff from rejection is more complicated, as the effort choice following rejection and the resulting effect on quality and continuation values has to be taken into account. While the choice of effort will be analysed below, it is important to note at this point that both the expectation of quality increases as well as more favourable ideological outcomes in future periods increase the probability that an institution will reject the proposal on the table. This means that postponing agreement can be efficient or inefficient, depending on whether delay is driven by ideological concerns or by rising quality.

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 p_T. The choice of the optimal p_T therefore evades straightforward characterization. The only feature we want to highlight at this point is that the optimal choice does not depend on the current discount factor. This is because the period in which the ideological component is chosen ends immediately after the choice has been made. The problem of selecting the optimal p_T is therefore to maximise $\delta_{z,t} \cdot V_{z,t+1}(p_T, \hat{q}, a)$, which is equivalent to maximising $V_{z,t+1}(p_T, \hat{q}, a)$. Conditional on the other state variables, the ideological component of the proposal on the table at the beginning of any period is therefore unique and we can accordingly write the continuation value at the beginning of period t as $V_{z,t}(\hat{q}, a)$.

Finally, consider the choice of effort aimed at improving quality. The utility of institution z in period t from choosing effort level e can be written as

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

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Maximising this function with respect to e is equivalent to maximising

$$H(e) \; \delta_{z,t} \; (V_{z,t}(h,a) - V_{z,t}(0,a)) \; - \; e \; .$$

As H was assumed to be concave, the optimal level of effort e^* is either equal to zero if

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

or defined by the condition

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

In contrast to the ideological component, effort thus depends on the current discount factor and more patient legislators will tend to invest more. The key factor here is $V_{z,t}(h,a) - V_{z,t}(0,a)$ though, which measures to what extent an institution benefits from an increase in quality.

To gain some insights into the forces shaping the extent to which an institution benefits from high quality it is useful to focus on the case where the status quo lies in between the ideal points of the institutions, or more formally, $p_o \in \text{Conv}(\{i_b, i_s, i_c\})$. If this is true, legislators are unable to agree on any policy other than the status quo as long as quality remains low. Consider the situation of the institution that has the final opportunity to invest in some period $t-1$. Failure to generate high quality at this point implies that negotiations fail and the status quo remains in place. The continuation value $V_{z,t}(0,a)$ at this point is thus equal to $-(p_o - i_z)^2/(1 - m_z)$ for any institution z. If, on the other hand, other actors invest in quality subsequently, it will be the case that

$$V_{z,t}(0,a) \geq -(p_o - i_z)^2/(1 - m_z)$$

for any institution with veto power, as they can block any proposal that makes them worse off than the status quo. If this last inequality is strict for the institution investing in quality in period $t-1$, then the incentives to exert effort are reduced compared to the case with no subsequent investments. We therefore say that this institution has an opportunity to free-ride.

A useful benchmark for the value $V_{z,t}(h,a)$ of generating high quality, on the other hand, is

$$[-(p_o - i_z)^2 + h]/(1 - m_z) \; . \tag{1}$$

This is the payoff that results if the presence of high quality does not effect

subsequent bargaining over policies and agreement is achieved in period t. The actual continuation value in equilibrium can be written as

$$V_{z,t}(h,a) = \sum_{T=t}^{\infty} m_z^{T-t} \left(\mathrm{E}_{t-1}[-(p_T - i_z)^2 | \hat{q} = h] + \mathrm{E}_{t-1}[q | \hat{q} = h] \right) . \qquad (2)$$

Expressing the difference between equations (2) and (1) as

$$\sum_{T=t}^{\infty} m_z^{T-t} \left(\mathrm{E}_{t-1}[-(p_T - i_z)^2 | \hat{q} = h] + (p_o - i_z)^2 \right)$$
$$+ \sum_{T=t}^{\infty} m_z^{T-t} \left(\mathrm{E}_{t-1}[q | \hat{q} = h] - h \right) \qquad (3)$$

provides further insights into the incentives shaping investments in quality. The first row of expression (3) captures the extent to which subsequent bargaining favours institution z. If this sum is negative, the policy component of the utility of the institution is below the level of utility achieved if the status quo prevails. 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 sum 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 second row of expression (3) captures the fact that the benefits of high quality are reduced by delay in agreement. This term is bounded above by zero and this value is obtained if agreement is achieved in period t with certainty. Any delay therefore reduces the incentives to invest in quality.

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

6.1   Estimation and Model Fit

We estimate the parameters of the model presented in the previous section using the generalized method of moments. This requires us to calculate the choice probabilities predicted by our model, which can then be used to con-

struct moment conditions that are informative about the model's parameters. Importantly, we allow for 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 expected outcomes of the stochastic elements of the model: the expected 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. Other parameters of the model are constant across proposals, and thus need to be interpreted relative to the location of the status quo distribution. 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 $e/(1 + e)$.

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. Different values for these parameters translate into different acceptance and failure probabilities at the various stages of the Ordinary Legislative Procedure. The observed probabilities are hence informative about the model's parameters and can be used for identification. The choice probabilities presented in Table 1 enable us to construct moment conditions of the

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form

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

where $\mathbf{a_{pt}^d}$ indicates acceptance of proposal p by institution z at stage t in the data, $\mathrm{E}\left[\mathbf{a_t^m}(\theta) \mid \{a_{\tau<t}^m\}\right]$ denotes the conditional expectations that a proposal at stage t is accepted 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.[7] Our estimator then minimizes the squared sum of our nine moment conditions.

The expectation of the theoretical outcomes is also over the distribution of status quos. Hence, for a given parameter vector, we have to compute the choice probabilities that the model predicts first conditional on each possible status quo, which is then integrated out.[8] 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 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. The choices of mean and variance therefore amount to pure normalisations.

A comparison of the choice probabilities predicted by our model and those actually observed for the decisions made during the 7th European Parliament 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 0.27 percent from the empirical counterparts.

To illustrate local identification of the estimated parameters by our nine moments, Figure 3 plots the (log) squared distance between the choice probabilities

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[7]The reasons for this choice are the small number of observations that this probability is based on as well as the fact that the probability itself is equal to zero.

[8]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. While closed form solutions are available for all accept/reject decisions in the model as well as for effort choices, we use grids to approximate the optimal ideological components of the various proposals.

	Data	Model
First Reading		
Approval by EP	0.1050	0.1227
Commission agreement on EP amendments	0.7445	0.7048
Approval by Council conditional on		
No amendments by EP	0.9677	0.9998
EP amendments approved by Commission	0.9844	0.9985
EP amendments not approved by Commission	0.1404	0.1214
Second Reading		
Approval by EP	0.6610	0.6548
Commission agreement on EP amendments	0.7619	0.7627
Approval by Council (cond. on Com. approval)	0.8846	0.8865
Proposal fails	0.1606	0.2270

Table 3: Empirical and Predicted Moments

as predicted by the model an the empirically observed decisions against each of the model's parameters. In each case, a clear minimum is obtained.

6.2 Parameter Estimates

We list the estimated parameters as well as their standard errors[9] 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. One meaningful way to think about this dimension in our context of EU legislation is in terms of further EU integration, with the Parliament (i_s) being strongly in favour of pushing legislation towards further

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[9]We compute asymptotic standard errors for parameters with unbounded support (i_b, i_s, i_c, and $i_{\tilde{c}}$), and bootstrapped standard errors for parameters with restricted support (m_b, m_s, m_c, w and q).
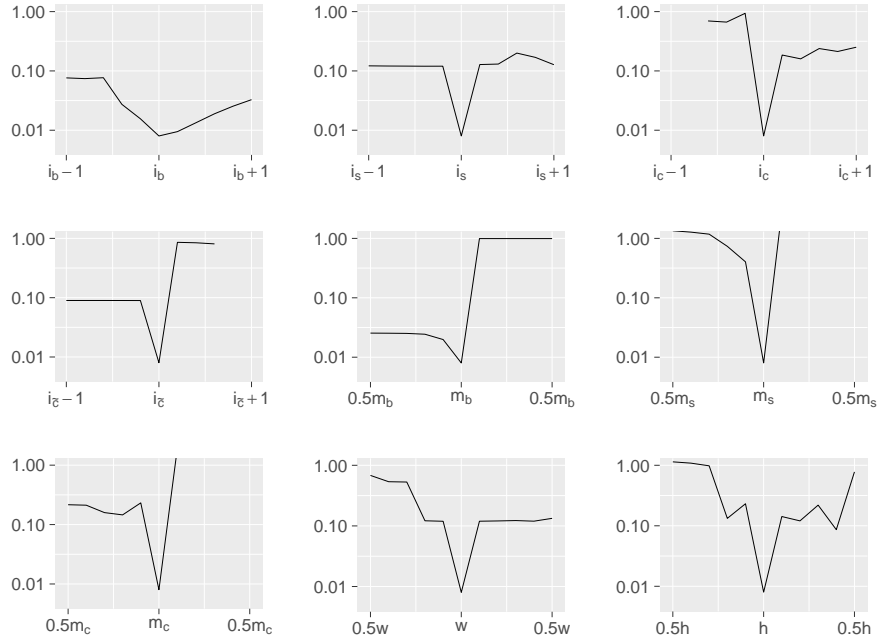
Figure 3: Local Identification

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

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 skeptical 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 half the cases.

Average discount factors are in a plausible range between 0.91 and 0.98,
varying slightly across institutions. According to our estimated model, the
Commission is the most patient among the three institutions. Even though
support for a legislative proposal is primarily determined by its ideological con-
tent, institutions may be willing to deviate from their own optimal position if

Parameter	Value	Std. Err.
i_b	0.0064	(0.0074)
i_s	12.7171	(0.0005)
i_c	-1.8980	(0.0001)
$i_{\tilde{c}}$	-2.3770	(0.0772)
m_b	0.9836	(0.0023)
m_s	0.9639	(0.0127)
m_c	0.9118	(0.0200)
w	0.0265	(0.0003)
q	0.0752	(0.0008)

Table 4: Estimated Parameters

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 $\sqrt{0.0752} \approx 27$ percent of a standard deviation of the status quo distribution from their ideal position in return for a piece of legislation of high quality. Given the assumed standard normal distribution of the status quo, this implies that a qualified majority of the Council would accept an additional 2.3 percent of proposals if they are of high quality.

6.3 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. An obvious starting point 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 0.0454—very close[10] to the Commission, whose ideal point is located at 0.0064. 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

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[10]Distance is measured relative to the standard deviation of the distribution of the status quo here.

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 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 bargaining process 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, under most status quos agreement on any policy other than the status quo is only possible if quality is high. 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 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 -1.9 fall into the range where agreement is always possible. 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.[11] 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 far smaller than the average status quo.

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

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[11]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.
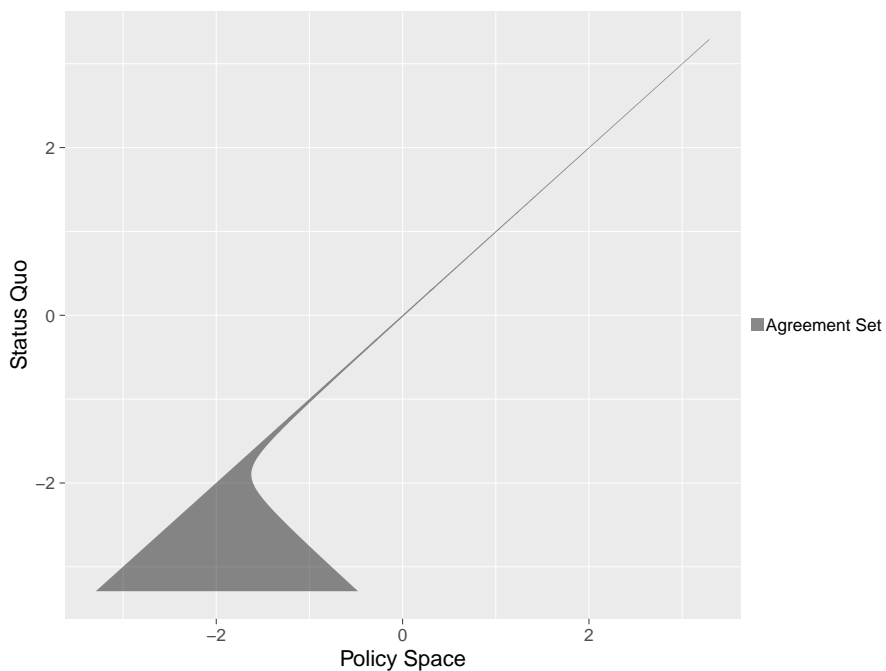
Figure 4: The Agreement Set

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.

the agreement set are determined by the most extreme institutions: given that legislators suffer a convex loss if policy moves away from them, 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 typically located much closer to the status quo than the Parliament and actual outcomes therefore favour the Council.

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

	Value	Std. Err.
Commission	0.0000	0.0000
EP	0.0013	0.0002
Council (qualified majority)	0.1696	0.0032

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

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 Council matters for outcomes and this influence translates into policies that favour the Council. The presence of the Parliament also matters but does not affect outcomes as much since the Parliament is disadvantaged by being located far from the typical status quo. Finally, the Commission has at most a very marginal influence. 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 a rare opportunity arises where the institutions agree that legislation should move in a particular direction, however, substantial reforms are possible.

6.4   The Quality of Legislation

In this section we investigate what our results imply for the quality of legislation that the European Union produces. Under the estimated parameter vector about 78 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 low quality in about 86 percent of cases. Conditional on being confronted with such a proposal, the Parliament achieves an increase in quality with an average probability of 0.74. The Council, on the other hand, never invests in quality. This lack of investment by the Council is the flip side of what drives the strong investment of the Parliament. High quality enables the Parliament to shift policy in its own direction due to its strong weight in the Conciliation Committee. While these shifts are in many cases not substantial relative to the standard deviation of the distribution of the status quo, they often increase the utility of the Parliament much more than high quality by itself. To see this, we compute the effort of the Parliament if policy was always fixed at the status quo, eliminating the effect of high quality on subsequent bargaining. In this case the Parliament would produce an increase in quality with a probability of only 0.29. The value of quality to the Parliament is thus subject to a multiplier effect that stems from the improvement in the bargaining position of the Parliament that high quality generates. This effect is strong enough to raise the overall probability that the legislative process produces a proposal of high quality relative to the case where quality does not affect bargaining along the ideological dimension. In the latter case only about 67 percent of proposals experience an increase in quality, compared to 78 percent in the baseline described above.

6.5   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 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

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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 consequences of removing 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. Removing the influence of the Commission over the voting rules in the Council has a negligible impact. This may seem surprising as the Commission rejects the amendments of the Parliament in a significant number of cases, particularly during the first reading. However, most of these rejections occur in cases where the absence of an improvement in quality prohibits agreement and the Council would therefore subsequently also reject even under qualified majority.

	Stage of Agreement				
	1st Reading	Early 2nd Reading	2nd Reading	3rd Reading	Failure
Baseline	0.7439	0.0191	0.0068	0.0033	0.2270
No Unanimity	0.7444	0.0136	0.0101	0.0048	0.2270
Short 2nd Reading	0.7421	0.0029	-	0.0293	0.2257

Table 6: Counterfactual distributions over possible stages of agreement

The second change to Ordinary Legislative Procedure that we investigate is a shortening 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 are bargaining over tiny 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 hard to predict. Our equilibrium model is well suited for this task. To be specific, the change that we want to analyse is the removal

of the ability of the Parliament to introduce further amendments during the second reading. This means that a rejection of the first-reading position of the Council by the Parliament will immediately lead to the convening of the Conciliation Committee. The consequences that our model predicts are given in row three of Table 6. Individual probabilities are hardly affected beyond the mechanical effect that second reading agreements no longer exists. However, even this mechanical effect does not appear to shorten the average length of the process, as there is a small shift towards later agreements and the share of proposals that were delayed beyond the second reading was very low to start with. The most notable change is a slight decrease in the number of proposals that fail, reflecting a modest increase in the amount of effort that institutions invest. The explanation for the very modest impact of the shortening of the second reading once more rests with the generally narrow agreement sets, which imply that the ability of the Parliament to introduce a proposal during the second reading has only a small effect on continuation values during earlier rounds.

In general, the results in this section suggest that the importance of veto rights means that other formal rules have a very limited impact on the outcomes of the Ordinary Legislative Procedure. Accordingly, debates about reforming the institutional set-up of the European Union should focus on questions other than changes to the legislative process.

7 Conclusion

This paper contributes both to the theoretical and the empirical literature on legislative bargaining by formulating and estimating a dynamic model of law-making in the European Union. Our paper is the first to structurally estimate such a model on non-experimental data. To identify the models 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.

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 part of the surplus from the otherwise more influential Council.

Contrary to an often-voiced perception that the European Commission holds strong power in the inter-institutional bargaining, we find that it actually is the contrasting positions of the Council of the European Union and the European Parliament that put tight constraints on changes to the status quo that all institutions can agree on. Procedural reforms of the European legislative process may have a very limited effect on shifting the balance of power between EU institutions as long as veto powers remain unchanged.

This is 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 the legal texts themselves and the 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 relate 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.

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