Institutional Reform and Decision-Making Efficiency in the European Union

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This article analyzes whether institutional reform has enabled the European Union (EU) to deal efficiently with an expanding legislative agenda. We use the time lag between a Commission proposal and a Council decision as the central indicator of EU decision-making efficiency and develop four hypotheses about factors influencing the proposal-decision time lag. We test these hypotheses by analyzing all proposals for binding EU legislation made between 1984 and 1994 using event history analysis. Our results show that institutional reform had a substantial impact on decision-making efficiency and suggest that the EU is capable of an effective institutional response to an expanding legislative agenda. However, decision-making efficiency is not the only goal guiding EU institutional reform.

Since the 1970s, legislative activity of the European Union (EU) has expanded greatly in both scale and scope.' The number of legislative acts adopted by the EU per year increased from less than 300 in the mid-1970s to more than 500 in the mid-1980s. At the same time, the EU gradually extended its competencies to issue areas not explicitly covered by the Treaties of Rome, such as consumer protection, research and development, and the environment.

This continuous expansion of EU legislative activity has been accompanied by periodic changes of the EU's institutional framework. The Single European Act (1987) introduced qualified majority voting for a number of policy areas and provided the European Parliament with the ability to influence legislative outcomes. The Treaty on European Union (1993) extended the use of qualified majority voting and strengthened the role of the Parliament in the legislative process.

In this article, we analyze whether institutional reform has enabled the EU to deal efficiently with an expanding legislative agenda. A common theme in the literature is that the efficiency of the EU decision-making process has deteriorated considerably as EU legislative activity has increased over the past two decades. A number of studies suggest that the Council is unable to cope with the Commission's legislative output (Scharpf 1988 Sbragia 1993; Dehousse 1995). Other studies point to a dilution in the substantive content of EU legislation (Van den Bos 1994; I-leritier 1996 Scharpf 1997). The most common suggestion is that the EU decision making process has become inordinately slow, suffering from an excessive

load of business and increased gridlock (CEC 1979; Wessels 1991; Nugent 1994). In a widely cited article, Scharpf argues that the EU is unable to increase the efficiency of the decision-making process because the need for compromise among member governments makes effective institutional change impossible. According to Scharpf, the institutional reforms culminating in the Single European Act failed to reduce the "inefficiency and inflexibility of European policy making." The introduction of qualified majority voting, he argues, "may not make much of a difference in practice" (1988, 269).

In this article, we systematically evaluate these impressionistic accounts of EU decision-making efficiency. We use the time lag between a Commission proposal and a Council decision as the central indicator of EU decision-making efficiency. We specify and test an econometric model of EU decision-making speed to analyze the factors influencing the proposal-decision time lag. This allows us to assess the ability of the EU to deal efficiently with an expanding legislative agenda.

Three studies have analyzed the duration of the EU decision-making process. Krislov, Ehlermann, and Weiler (1986) provide descriptive statistics on a sample of 472 EU decisions made between 1958 and 1981 and find no increase in the proposal-decision time lag. However, the generalizability of their results is limited because their sample is not representative of the population of EU decisions. They also make no attempt to explain the determinants of EU decision-making speed.

Sloot and Verschuren (1990) analyze Commission proposals made in five years between 1975 and 1986. They regress the proposal-decision time lag on a set of explanatory variables and find that consideration of a Directive has a positive effect on the proposal-decision time lag, while the number of proposals waiting for adoption has a negative effect on the duration of the legislative process. They also find that the voting rule used in the Council has no effect on decision-making speed. However, the usefulness of their study for the understanding of EU decision-making efficiency is limited because of methodological problems. First, their use of OLS leads to biased estimates because of right-censored data. These are proposals made by the Commission that have not yet been decided by the Council. Standard regression analysis does not allow for censored observations to be used in estimating parameters, thus introducing biases that result from deleting such observations. Second, they fail to control for time dependence and for possibly confounding variables, such as issue area. Their study also does not permit an assessment of the role of the Parliament in the legislative process since it covers only the period 1974-86.

Golub (1999) analyzes Commission proposals for Directives made between 1974 and 1995. He finds that

the use of majority rule increases decision-making speed and that proposals subject to the cooperation and co-decision procedures have longer proposal-decision time lags than proposals made under other procedures. Golub's study has three important limitations. First, like previous analyses, he does not use theory-based reasoning to motivate the selection of his variables or to derive his hypotheses. Second, he fails to control for time dependence and for possibly confounding variables, such as issue area. Third, and most importantly, his sample is not representative of the population of EU decisions. He only analyzes proposals for Directives, which account for less than a fifth of EU legislative output.

In this article, we improve on the above studies in three respects. First, we use an explicit theoretical framework to motivate our selection of variables and to derive our hypotheses. Second, we analyze the entire population of proposals for binding EU legislation made between 1984 and 1994, thus eliminating possible sampling biases and maximizing the efficiency of the estimates. Third, we test our hypotheses using an econometric technique that is specifically designed for the analysis of duration data and that allows censored observations to be used in estimating parameters.

The empirical analysis provides strong support for our hypotheses: (1) the use of qualified majority rule decreases the proposal-decision time lag; (2) participation of the Parliament increases the duration of the decisionmaking process; (3) measures pertaining to policy areas that constitute the functional core of the EU have shorter time lags than measures in other issue areas; and (4) Regulations and Decisions have shorter time lags than Directives. Our results show that institutional reform had a substantial impact on EU decision-making efficiency. The two institutional variables have by far the greatest effect on the proposal-decision time lag. The introduction of qualified majority voting illustrates that the EU is capable of an effective institutional response to an expanding legislative agenda. The effect of Parliamentary participation, by contrast, suggests that decision-making efficiency is not the only goal guiding EU institutional reform and that member states are willing to tolerate a decrease in decision-making efficiency in order to achieve other goals, such as reducing the EU's "democratic deficit."

The EU Legislative Process

There are five different types of EU legislation: Regulations, Directives, Decisions, Recommendations, and Opinions. Regulations are binding in their entirety and directly applicable in all member states. Directives, by

contrast, are binding only "as to the result being achieved"-they lay down an objective and leave it to each member state to achieve this objective by the means it regards most suitable. Directives also apply only to the member state to whom they are addressed. A Decision is binding in its entirety, but applies only to the member state or person to whom it is addressed. Recommendations and Opinions are not binding at all. In this article, we focus on binding legislation and ignore Recommendations and Opinions.

The EU treaties set out several different decisionmaking procedures and specify the circumstances in which they are to be used. The most important procedures are the consultation procedure, the cooperation procedure, and the co-decision procedure.2 Under all procedures, the Commission has the sole right to propose legislation.' Council amendments require unanimity. None of the legislative procedures limit the duration of the decision-making process.4 The consultation procedure is the standard legislative procedure introduced by the Treaties of Rome. Depending on the treaty article on which the Commission's proposal is based, the Council can adopt legislation either by qualified majority or by unanimity. The "Luxembourg compromise" of 1966, although not legally binding, ensured that in most cases, the Council acted by unanimity, even when applying treaty articles that permitted majority voting. The Single European Act (SEA) of 1987 effectively abolished the Luxembourg compromise and introduced qualified majority voting for a number of policy areas. The SEA also introduced a new legislative procedure, the cooperation procedure, which, for the first time, provided the EP with the ability to influence EU legislation. Under cooperation, the EP can reject or amend legislative proposals; a Parliamentary rejection or amendment (if supported by the Commission) can be overridden only by a unanimous Council. The co-decision procedure, introduced by the Treaty on European Union in 1993, provided the EP with an absolute veto over legislation. It also introduced a conciliation committee in which the Council and EP can resolve differences over EU policy. Under cooperation and co-decision, the Council decides by qualified majority voting.

The EU legislative process has received considerable attention from scholars, but most existing work is exclusively descriptive.5 There is, however, an emerging literature that uses methods developed in American Politics to analyze EU decision making under different legislative procedures.6 This literature suggests that EU institutional reform had a considerable effect on legislative decision making. There is agreement among scholars that the introduction of qualified majority voting significantly enhanced the legislative power of the Commission. The consensus view is that the ability of the Commission to influence legislative outcomes is highest under consultation and lowest under co-decision. Scholars likewise agree that the EP gained important powers under cooperation and co-decision. There is, however, some disagreement about the relative influence of the EP under the two procedures. The literature agrees that EU institutional reform weakened the position of the Council, but scholars disagree about the relative power of the Council under cooperation and co-decision.8

In sum, the literature suggests that institutional reform had a considerable effect on EU legislative decision making. However, it does not address the issue of decision-making efficiency. Rather, it focuses on the effect of institutional rules on the balance of power among EU institutions and on policy outcomes. This article complements existing work on EU decision making by analyzing the impact of institutional reform on the efficiency of the legislative process. A general weakness of existing work on EU decision making is that it does not systematically test the consequences of institutional reform against data. The literature discussed above is largely theoretical

5See, for example, Curtin (1993), Hartley (1994), Nugent (1994), and Peters (1992).

6See, for example, Cooter and Drexel (1994), Crombez (1996, 1997), Garrett (1995), Garrett and Tsebelis (1996), Steunenberg (1994), Tsebelis (1994), Tsebelis and Garrett (1996).

 The debate centers on the relative importance of agenda setting and veto power. Garrett and Tsebelis (1996) argue that co-decision weakened the position of the EP because it lost agenda-setting powers to the Council. Crombez (1997) and Steunenberg (1994), by contrast, conclude that co-decision increased the influence of the EP because it gained an absolute veto over EU legislation. The two sets of authors reach opposing conclusions because of differences in their modeling approach. Garrett and Tsebelis focus on the last two stages of the two procedures, assuming that some form of uncertainty enables the actor that moves next-to-last to make a proposal that moves EU polity closer to its ideal point. Crombez and Steunenberg analyze the entire sequence of proposal making, amending, and voting under the assumption of complete information.

'Garrett and Tsebelis (1996) argue that under co-decision the Council regained some of the influence it lost under cooperation, while Crombez (1997) and Steunenberg (1994) conclude that codecision further reduced the ability of the Council to influence legislative outcomes.

2 For a description of the major legislative procedures, see Hartley (1994,38-56).

'While the Commission has the formal authority to propose legislation, the Council or the EP may request that the Commission submit a proposal (Art. 152 EC and Art. 138b EC). That is, the Commission has proposal power but no gatekeeping power.

4Art.189b(c) EC implies that under the co-decision (cooperation) procedure a maximum of fourteen (nine) months may elapse from the beginning of the second reading for a proposal to be adopted; however, neither article imposes limits on the duration of the first reading.

and contains only a few references to individual cases.9 To assess the explanatory power of theories of EU decision making, it is necessary to subject them to systematic empirical tests. This article does this with respect to decision-making efficiency.

Hypotheses

The objective of this article is to analyze whether institutional reform has enabled the EU to deal efficiently with an expanding legislative agenda. This requires a measure of EU decision-making efficiency. Krislov, Ehlermann, and Weiler's (1986) distinction between mechanical and substantive *lourdeur is* helpful in identifying two dimensions of EU decision-making efficiency. They use the term *lourdeur* to characterize the alleged decisional malaise of the EU.IO Indicators of mechanical *lourdeur* include a decline in the quantity of legislative output and, most importantly, a slowing down of the decision-making process. Substantive *lourdeur,* by contrast, denotes the dilution in the substantive content of EU legislation.

In this article, we analyze the efficiency of the EU decision-making process focusing on the mechanical dimension of *lourdeur.* This does not mean that we regard the substantive dimension as irrelevant. However, the substantive content of legislation is an inherently subjective concept that is difficult-if not impossible-to measure and, hence, not suitable for the purpose of this study. We use the time lag between a Commission proposal and a Council decision as the central indicator of EU decisionmaking efficiency. While the proposal-decision time lag does not capture every aspect of EU decision-making efficiency, it is the single most comprehensive indicator. A necessary condition for an efficient legislative process is to produce decisions in a timely fashion. It is for this reason that virtually all studies suggesting a decline in EU decision-making efficiency have emphasized the alleged slowing down of the decision-making process.

cesses. Consider an n-member Council governed by k majority rule $1/2 < k <$_ land assume that Council members make decisions on a one-dimensional policy space over which they have Euclidean preferences (Figure 1). Let xi denote the ideal point of Council member i. L represents the leftmost Council member, Q the Council member with a k-majority of votes to its right, Q* the Council member with a k-majority of votes to its left, and R the rightmost Council member. SQ denotes the current policy or status quo. In this model, policy change occurs only if SQ a [xQ,xq], that is, if the status quo is outside the set bounded by the two pivotal Council members. By contrast, if SQ E [xQ,xQ,], then there is no k-majority in the Council to change SQ. The set [xQ, xQF] thus defines the set of status-quo points for which there is no policy change-the "gridlock interval" or core. In this article, we assume that width of the gridlock interval and speed of decision making are inversely related.l t

This assumption is motivated by the following observation. The spatial model of legislative choice simplifies the reality of political decision making in a number of respects. In the above illustration, actors have complete and perfect information, make decisions on a one dimensional policy space, and act as if they were in a one-shot game. In the world of Figure 1, actors reach decisions instantaneously; depending on the location of the status quo, policy is either changed or not. The reality of political decision making is, however, more complicated than Figure 1 suggests. Consider a status quo just to the right of xQ. According to the simple spatial model, since there is no qualified majority in support of a new policy, the status quo prevails. In reality, however, Council members favoring policy change have an incentive to persuade Council member Q to vote for the proposed policy. For example, they may offer Q side payments; or they may offer to compromise on another policy issue in return for Q's vote; or they may promise Q to compromise on a future policy issue. Side-payments and linkage across issues and across time are strategies to bring about policy change in situations in which the simple spatial model would predict gridlock. However, bargaining over side-payments and package deals increases the duration of the decision-making process. The possibility of effective blockages of the decision-making process makes ac

Factors Influencing Decision-Making Speed

The spatial model of legislative choice-though technically a static model-suggests two classes of factors influencing the duration of political decision-making pro

"We rely on this conjecture from the static spatial model of legislative choice, since there are few dynamic models that yield testable propositions about the duration of political decision-making processes. Most of these models are driven by some kind of discount factor and decision-making speed is usually not their primary explanatory concern (e.g., Baron and Ferejohn 1989). Since the focus of our analysis is empirical rather than theoretical, we make do with a conjecture based on a static model and leave the development of a dynamic model of the duration of political decisionmaking processes for future research.

9See Bueno de Mesquita and Stokman (1994) for an exception.
10Lourdeur means heaviness, clumsiness. The Council of Minister's 1979 Report on European Institutions first used the term to characterize EU decision making: "This general phenomenon of an excessive load of business aggravated by slow and confused handling may be summed up in the one French word lourdeur..." (CEC 1979, 9).

FIGURE 1   Gridlock in the Spatial Model
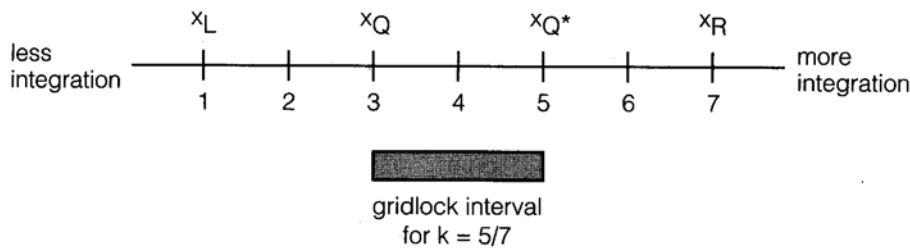
tors take longer to resolve differences over policy and to strike a mutually acceptable bargain. By contrast, if there is broad agreement among actors to change policy, there is no need for time-consuming negotiations over side payments and package deals. This should greatly speed up the decision-making process. The degree to which there is agreement in the Council to change policy is indicated by the width of the gridlock interval. Hence, we conjecture that width of the gridlock interval and speed of decision making are inversely related.

In our view, this assumption should be relatively uncontroversial and, once accepted, a number of hypotheses can be extracted from the spatial model of legislative choice. In this model, the width of the gridlock interval is a function of two factors: (1) the institutional requirements for the adoption of legislation and (2) the distribution of actors' preferences. In the remainder of this section, we discuss both institutional features of the EU legislative process and factors indicating the distribution of preferences in the Council of Ministers and then develop four comparative static predictions regarding the duration of the EU decision-making process.

Institutional Rules

The two most important institutional features of the EU legislative process are the voting rule in the Council of Ministers and the role of the European Parliament.

Voting rule. Figure 1 illustrates the effect of the voting rule on the width of the gridlock-interval. Assume the seven member Council is governed by unanimity rule *(k = 7/7)*. Council members 1 and 7 are pivotal, and for all SQ *E* [1, 7] there is no consensus in the Council to change SQ. A shift to qualified majority rule *(k = 5/7)* decreases the width of the gridlock interval. Now Council members 3 and 5 are pivotal, and as long as SQ *E* [3, 5] it will defeat any other policy. Together with our assumption that width of the gridlock interval and decision-making speed are inversely related, this yields the following hypothesis:

Hypothesis 1: The use of qualified majority rule decreases the proposal-decision time lag.

Role of the Parliament. The effect of Parliamentary participation on the width of the gridlock-interval depends on the EP's policy preferences. As long as the ideal point of the median voter on the floor of the EP *(xP)* falls inside the set bounded by the ideal points of the two pivotal Council members, the width of the gridlock interval does not change. By contrast, if xp **a** [xQ,xQ,], the gridlock interval widens. *12* Whether xp falls inside or outside the set [xQ,xQ,] is, of course, an empirical question. But there are substantive reasons to assume that it lies outside the Council's gridlock interval. Most observers agree that the salient dimension of EU policy making is the degree of integration in the EU and that the preferences of the EP are more prointegration than those of any member of the Council. The EP was created to advance the interests of the EU as defined by its constitutional treaties. Since its creation, the Parliament has vigorously pushed forward the level of integration in the EU. It has consistently called for policies that are far more "integrationist" than those advocated by member state governments. This suggests that the ideal point of the median voter in the EP falls outside (and to the right of) the Council's gridlock interval.13 Hence we hypothesize:

Hypothesis 2: The participation of the Parliament in the EU decision-making process increases the proposal decision time lag.

Distribution of Preferences

In addition to the institutional requirements for the adoption of legislation, the spatial model of legislative

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12The gridlock interval widens to [minlxQ,max{xL,xPl}, max{xQ.,min1xR,xP}}] in case of the cooperation procedure (Parliamentary rejection can be overridden by unanimous Council) and to [minlxQ,xP},maxlxQ.,xP}] in case of the co-decision procedure (absolute veto of the EP).

131t is, of course, possible that the EP's preferences will change in the future as EU citizens take a closer interest in the activities of the Parliament.

choice suggests that indecision, and by our assumption decision-making speed, depend on the distribution of actors' preferences. Consider Figure 1 and assume that the distance between each ideal point increases by 50 percent. Clearly, the increase in the heterogeneity of actors' preferences increases the width of the gridlock interval. *14* The spatial model thus suggests that heterogeneity of actors' preferences and decision-making speed are inversely related-the more heterogeneous actors' preferences, the longer it takes for them to resolve differences over policy and to strike a mutually acceptable bargain. We make no attempt in this article to estimate member states' ideal points, but there are two characteristics of EU policy making that allow us to make inferences about the distribution of preferences in the Council.

Issue area. The primary goals of the European Economic Community were to create a common market in goods, services, capital, and labor and to adopt common policies in a limited number of related domains, including agriculture, competition, and trade. The economic rationale for establishing an internal market was compelling. Nontariff barriers to trade (NTB) arising from different national rules and regulations entailed substantial efficiency losses. While the abolition of NTBs entailed distributional losses, the overall benefits of having a common market were obvious (Ceccini 1988). This suggests that preferences of member states regarding measures establishing the internal market are relatively homogenous. The same reasoning applies to policies in the areas of agriculture, competition, and trade, which, together with the internal market, form the functional core of the EU. However, relative homogeneity of preferences can not necessarily be assumed for other issue areas. This is because the mutual benefits of EU legislation in fields such as social policy, research and development, and the environment are much less clear, while the distributional consequences are often substantial and certain. This suggests the following hypothesis:

Hypothesis 3: Measures pertaining to policy areas that constitute the functional core of the EU (internal market, agriculture, competition, and trade) have a shorter proposal-decision time lag than measures in other issue areas.

Policy instrument. As discussed above, binding EU legislation can take three different forms: Regulations, Direc

tives, and Decisions. Most Regulations and Decisions concern quite specific adjustments of existing EU law. Directives, by contrast, tend to be more general in nature. They are primarily concerned with the laying down of broad policy principles and deal more often with "strategic" issues, often involving substantial distributional consequences. Furthermore, while Regulations and Decisions are directly applicable in the member states, Directives require a change in domestic law. This may be difficult for some governments either because they lack domestic legislative majorities or because of opposition from domestic interest groups. As a result of such implementation problems, member governments can be expected to be less flexible when negotiating a Directive, resulting in prolonged bargaining in the Council. This suggests the following hypothesis:

Hypothesis 4: Regulations and Decisions have a shorter proposal-decision time lag than Directives.

Analysis

Testing hypotheses 1-4 requires information about the date of a Commission proposal, the possible date of a Council decision, the policy area of the proposed legislation, the voting rule in the Council, the instrument by which the proposed legislation is to be implemented, and the possible participation of the Parliament in the decision-making process. While this information is available from printed sources such as the Official journal, there is no electronic database that supports the construction of a machine-readable dataset. The EU's Celex database contains some of the required information, but it is a full-text database that does not provide an indexed query interface.

To construct a machine-readable dataset, we used a Fortran routine to extract information from the Celex database. We then processed this data in a relational database to obtain the information required for the empirical analysis. Ideally, we would have constructed a dataset comprising the entire legislative history of the EU. However, since the Celex database is complete only as of 1984, we had to limit our analysis to proposals made in or after 1984. We ignored Council decisions made in or after 1984 when the Commission proposal was made before 1984 since this would have led to the inclusion of leftcensored observations. To date, there is no satisfactory solution to the problem of left censoring. Since there is a considerable delay before the Celex database is fully updated, we ignored all decisions made after 1995. To keep the effect of right censoring manageable, we ignored pro

"An increase in the heterogeneity of preferences does not always increase the width of the gridlock interval. A necessary condition for the gridlock interval to widen is an increase in the distance between the ideal points of the two pivotal Council members.

TABLE 1 Descriptive Statistics—Duration (days)

	Cases	Percent	Median	Min.	Max.
Proposals[a]	5183	100.0	156	1	4366
-decided[b]	3708	71.5	100	1	3626
-pending[c]	1475	28.5			

[a]Proposals for binding legislation made by the Commission between January 1,1984, and December 31,1994.
[b]Decisions made by the Council on the above proposals by December 31,1995.
[c]Pending proposals are censored on December 31,1995.

TABLE 2 Descriptive Statistics—Explanatory Variables

| Variable	Value	Frequency	Percent
Decision Rule	1 = Majority rule	4135	79.8
	0 = Unanimity rule	1003	20.2
Parliament	1 = Formal role	363	7.0
	0 = No formal role	4775	93.0
Instrument	1 = Directive	755	14.6
	0 = Regulation or Decision	4383	85.4
Agriculture	1 = Agriculture	1985	34.2
Common Rules	1 = Competition, Taxation, and Approximation of Laws	566	9.8
Internal Market	1 = Free Movement of Goods, Services, Persons, and Capital	366	6.3
Trade	1 = Common Commercial Policy	1953	33.7

Note: We determined the issue area of a proposal by the treaty title to which the article on which the proposal is based pertains. If the Commission based its proposal on more than one treaty article and if those articles pertained to different issue areas, the proposal was counted for each issue area. The Commission based 863 proposals on more than one treaty article. Of those 863 proposals, 567 pertained to more than one issue area.

posals made after 1994. Hence, our dataset includes all proposals for binding EU legislation made between January 1, 1984, and December 31, 1994. Pending proposals are right-censored on December 31, 1995.

Descriptive Statistics

Our query of the Celex database yielded 5229 Commission proposals for EU legislation between January 1984 and December 1994. Because of missing or inconsistent data, we had to delete forty-six cases, leaving a total of 5183 observations. Of those 5183 Commission proposals, 3708 (71.5 percent) had been decided by the Council by December 1995. 79.8 percent of all Commission proposals were introduced under majoritarian decisionmaking procedures, 7 percent under procedures in which the Parliament had a formal role; agriculture and the Common Commercial Policy accounted for more than two-thirds of all proposals. Tables 1 and 2 provide further descriptive statistics.

The median proposal-decision time lag was 156 days. The distribution of the proposal-decision time lag has high positive skewness, with many observations clustered in the (0, 200) interval but with a long tail. As pointed out earlier, none of the EU legislative procedures limit the duration of the decision-making process. However, under all procedures, Council inaction suffices to shelve a Commission proposal. Hence, some proposals that have been pending decision for a long time may effectively be Council rejections. But long proposal-time lags are a characteristic feature of EU decision making. For example, of all 3708 proposals that had been decided by December 1995, 14.5 percent had a time lag of one year or greater. A 1984 proposal on the harmonization of VAT exemptions was decided on February 14, 1994, after 3626 days. Figure 2 provides evidence that the EU decision-making process has slowed down in recent years. The median proposal-decision time lag, which had been hovering around 110 days for proposals made between 1984 and 1988, increased markedly in the early 1990s-

FIGURE 2   Median Proposal-Decision Time Lag
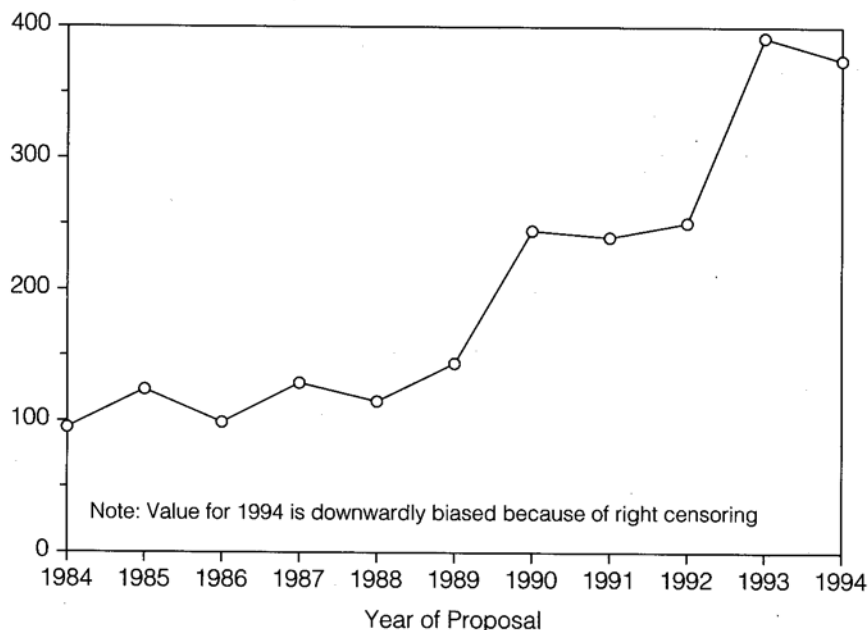
from 144 days for proposals made in 1989 to 392 days for proposals made in 1993.[15]

To test the hypotheses developed earlier, we use event history analysis. This is an econometric technique that is specifically designed for the analysis of duration data." First, we use nonparametric methods to examine possible determinants of EU decision-making speed. We then estimate a parametric model that provides a direct test of hypotheses 1-4.

Nonparametric Analysis

We used Nancy Tuma's RATE program to obtain nonparametric estimates of the hazard rate, which provides a measure of the probability of a Council decision in the next small amount of time given that the proposal has not yet been decided. We divided the population of Commission proposals into different subgroups to examine whether these groups differ in the timing of a Council decision.

Figure 3a shows separate hazard-plots for proposals subject to majority rule and for proposals being decided

by unanimity rule. " Proposals subject to majoritarian decision-making procedures have a much higher hazard rate than proposals requiring unanimity for adoption when those proposals have been pending decision for less than 300 days. The hazard rate of proposals that have been pending decision for more than 300 days is about equal for both groups. This suggests that proposals being decided by majority rule have a shorter proposal-decision time lag than proposals subject to unanimity rule, providing preliminary support for hypothesis 1.

Consistent with hypothesis 2, Figure 3b suggests that proposals subject to a decision-making procedure in which the European Parliament has a formal role have significantly greater proposal-decision time lags than proposals introduced under other decision-making procedures. The hazard plot for proposals subject to the cooperation and co-decision procedures is unusual because it is markedly bimodal, possibly reflecting the different time limits the two procedures specify for the duration of the second reading (see footnote 4).

Figure 3c provides preliminary support for hypothesis 4. The hazard rate for Regulations and Decisions peaks for proposals pending decision for 45 days and then quickly falls off and converges to zero. By contrast,

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[15] The mean is an inappropriate measure of central tendency because of the large number of right-censored observations. While the median does not automatically eliminate the censoring problem, it is much more robust in the context of censored data. In Figure 2, only the measure for 1994 is slightly downwardly biased because of right censoring.

"For an introduction to event history analysis, see Tuma and Hannan (1984).

"Since plots of hazard estimates versus time tend to produce a series of spikes, it is common to smooth estimated hazard rates in some way. Figure 3a-c shows plots of smoothed hazard estimates versus time using a smoothing algorithm developed by Friedman (1984).

FIGURE 3   Smoothed Hazard Estimates

(b) Role of the Parliament
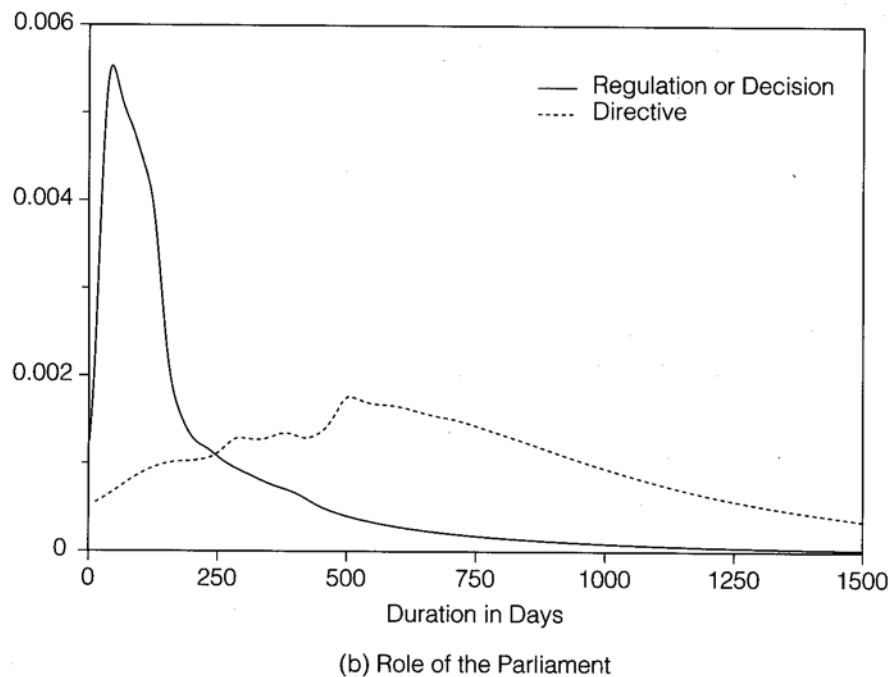
hypotheses developed earlier. This is because the nonparametric analysis does not control for possibly confounding variables. While it would be theoretically possible to compare hazard plots for subgroups with the same constellation of covariates, this is impractical given the number of variables. To test the hypotheses developed in the previous section, we therefore estimate a hazard rate model.

Parametric Analysis

The first question is whether to estimate a semi-parametric or a fully parametric model. A semi-parametric specification assumes that hazard rates for different values of covariates are proportional. A necessary condition for the proportional hazard assumption to be met is that the hazard functions for two categories of a covariate do not cross. A quick inspection of Figure 3a-c shows that the proportional hazard assumption is violated for EU decision making between 1984 and 1994. Hence, it is not appropriate to estimate a semi-parametric model."

The parametric approach assumes some specific parametric distribution of the hazard rate and then makes this distribution dependent on covariates by linking them

"As an additional test of the proportional hazard assumption, we estimated a Cox model with interaction effects between covariates and (process) time. The coefficients of the interaction variables were different from zero and highly significant, indicating a clear violation of the proportionality assumption.

to the parameters of the distribution. Hence, the first step is to specify the duration dependence of the hazard rate. A large number of different parameterizations have been proposed in the literature, but there are no established criteria for deciding what the appropriate specification is. A general rule is to choose a functional form that approximates the hypothesized shape of the hazard function.

The simplest parametric hazard rate model is the exponential model, which assumes that the hazard rate is a time-invariant constant. Figure 3a-c shows that this assumption is violated for EU decision making between 1984 and 1994. Figure 3a-c suggests that it is appropriate to estimate a model in which rates change nonmonotonically. The log-logistic model is often proposed when the hazard rate has a nonmonotonic pattern. This model assumes that the duration variable T follows a log-logistic distribution with mean -In a and variance n2/(3bZ). The survivor and hazard rate functions for this distribution are

$$S(t) = \frac{1}{1+(at)^b}$$

and

$$h(t) = \frac{ba^b t^{b-1}}{1+(at)^b}$$

Equation (1) implies

$$Q(S(t)) \equiv \log(S(t)^{-1} - 1) = b \log a + b \log t \qquad (3)$$

We plotted Q(0)) versus log t obtaining a roughly linear relationship. This suggests that the log-logistic model provides an adequate parameterization of the pattern of duration dependence in our data.

We assume that covariates affect only the a-term of the model and that

$$a = \exp\{x'b\} \qquad (4)$$

where x is the vector of covariates and b the associated vector of coefficients to be estimated. The model is estimated using the maximum likelihood method. The loglikelihood function is

$$\ell = \sum_{i\in N}\log\frac{ba^b t_i^{b-1}}{1+(at_i)^b} + \sum_{i\in M}\log\frac{1}{1+(at_i)^b}$$

with a given by Equation (4). ML estimates of b are obtained by maximizing Equation (5). We used Götz Rohwer's TDA program to estimate the model. Table 3 summarizes the results.

Results

The estimated model includes all explanatory variables plus a set of dummy variables for the proposal year. The sign of a coefficient indicates the direction of the effect on the hazard rate. The coefficients of Decision Rule, Parliament, Instrument, Agriculture, Internal Market, Trade, and Common Rules all have the expected sign and are highly significant, indicating that the results of the nonparametric analysis are not due to collinearity among those variables. The estimates of the time dummies mirror the observation in Figure 2 of a marked increase of the proposal-decision time lag between 1989 and 1994.

While the interpretation of the signs of the coefficients is straightforward, the interpretation of the size of the effects is not because the estimated model is nonlinear. For the log-logistic model, E[log tlx] = -x'b,where (3i is the derivative of this conditional mean:

$$\frac{aE[\underline{\log} tlx]}{axi} \qquad (6)$$

Roughly speaking, the percentage change of the proposal decision time lag resulting from a unit change in variable j is constant. Table 4 presents the effects of changes in each explanatory variable.

To facilitate the comparison of individual effects, Table 4 lists changes in the explanatory variables such that they result in an increase in the proposal-decision time lag. The two institutional variables have by far the

greatest effect on the proposal-decision time lag. Proposals subject to unanimity rule are estimated to be pending decision in the Council more than 4.8 times as long as proposals subject to majoritarian decision-making procedures. Giving the Parliament a formal role in the legislative process is estimated to increase the proposal decision time lag by 286.1 percent. Variables indicating the distribution of preferences in the Council of Ministers have smaller, but still substantial, effects on the duration of the EU decision-making process. The difference in the estimated proposal-decision time lag between the four issue areas constituting the functional core of the EU and other issue areas ranges from 72.9 percent (trade) to 195.1 percent (internal market). Finally, Directives are estimated to have an 80 percent greater proposal-decision time lag than Regulations and Decisions.

Discussion

The estimation of a parametric hazard rate model confirms the results of the nonparametric analysis and provides strong support for hypotheses 1-4. As hypothesized, proposals introduced under majoritarian decision-making procedures have significantly shorter proposal-decision time lags than proposals subject to unanimity rule. Moreover, the voting rule used in the Council of Ministers has by far the greatest effect on EU decision-making

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TABLE 3   **Determinants of EU Decision Making Speed**

Variable	Estimates
Constant a	-7.030 (0.121)*** 1.574
Decision Rule	(0.103)***
Parliament	-1.351 (0.162)*** -0.592
Instrument	(0.096)*** 0.727
Agriculture	(0.090)***
Common Rules	0.801 (0.128)***
Internal Market	1.082 (0.121)***
Trade	0.548 (0.090)***
Year 1985	-0.019 (0.129)
Year 1986	0.096 (0.123)
Year 1987	-0.269 (0.144)
Year 1988	0.018 (0.119)
Year 1989	-0.303 (0.126)** -0.424 (0.125)***
Year 1990	-0.447 (0.128)*** -0.510
Year 1991	(0.128)*** -0.894 (0.133)***
Year 1992	-0.769 (0.144)*** -0.106
Year 1993	(0.014)*** -26239.6
Year 1994	5183
Constant b	
Log-likelihood	
N	

Notes: Standard errors *are in parentheses.*p < 0.10, *p < 0.05, ***p < 0.01.*

TABLE 4 **Effect of Variables on EU Decision Making Speed**

	Change in Explanatory Variable		Change in Time
Variable	From	To	Lag (%)
Decision Rule	Majority rule	Unanimity rule	382.6
Parliament	No formal role	Formal role	286.1
Instrument	Regulation/Decision	Directive	80.8
Agriculture	Agriculture	Other issue area	106.9
Common Rules	Common rules	Other issue area	122.8
Internal Market	Internal market	Other issue area	195.1
Trade	Trade	Other issue area	72.9

speed. Our results suggest that the introduction of qualified majority voting following the Single European Act had a substantial impact on the duration, and hence efficiency, of the EU decision-making process and constituted an effective institutional response to an expanding legislative agenda.

Parliamentary participation has the second greatest effect on EU decision-making speed. As hypothesized, proposals subject to a decision-making procedure in which the European Parliament has a formal role have significantly greater proposal-decision time lags than proposals introduced under other decision-making procedures. Now, there is no evidence suggesting that decreasing EU decision-making efficiency was a major objective for member states when they decided to give the Parliament a formal role in the legislative process. Rather, the reason for providing the EP with the power to influence legislative outcomes was to reduce the EU's much lamented "democratic deficit." Our results specify the costs of increasing the democratic accountability of EU institutions in terms of decision-making efficiency: giving the Parliament a formal role in the legislative process significantly increases the duration of the decision-making process.

Our results further show that EU decision-making speed varies significantly across issue areas. As hypothesized, measures pertaining to the internal market, agriculture, competition, and trade have significantly shorter proposal-decision time lags than measures in other issue areas. An interpretation suggested by the spatial model of legislative choice is that preferences of member states are more homogenous in issue areas that constitute the functional core of the EU than in other issue areas. As discussed earlier, there are substantive reasons to expect systematic differences in preference homogeneity across issue areas, and our results are consistent with these expectations.

Finally, we find that Regulations and Decisions have significantly shorter proposal-decision time lags than Di

rectives. Since Directives require a change in domestic law and deal more often with "strategic" issues, often involving substantial distributional consequences, we hypothesized that they have longer proposal-decision time lags than Regulations and Decisions, and our results are consistent with this hypothesis.

Our results highlight the importance of three methodological points made in the introduction. First, it is crucial to use a sample that is representative of the population of EU decisions. Golub (1999) only analyzes proposals for Directives, which account for less than a fifth of EU legislative output. Our results show that the type of legislative instrument has a large and significant effect on EU decision-making speed. Golub's analysis therefore applies only to Directives and does not support more general inferences about EU decision making. Second, it is important to use the correct econometric method. Sloot and Verschuren's (1990) use of OAKS is not appropriate for analyzing EU decision-making speed because of the large number of right-censored observations. This suggests one possible explanation for their finding that the voting rule used in the Council of Ministers has no effect on the duration of the legislative process. Our results show that the voting rule has, in fact, a large and significant effect on EU decision-making speed. Third, it is necessary to use appropriate control variables. Both Golub and Sloot and Verschuren do not control for the policy area of a Commission proposal or for the time trend of the dependent variable. Our results show that decision-making speed varies systematically across policy areas. Given the strong correlation between policy area and the other variables, it is likely that some of the effects reported in the literature are, in fact, due to policy area. The results also show that a significant portion of the increase in the proposal-decision time lag cannot be explained by our set of explanatory variable. Since some of those variables vary systematically with time (e.g., participation of the EP), it is important to control for the time trend of the dependent variable.

Conclusion

In this article, we analyzed whether institutional reform has enabled the EU to deal efficiently with an expanding legislative agenda. We used the time lag between a Commission proposal and a Council decision as the central indicator of EU decision-making efficiency. Based on a discussion of the spatial model of legislative choice, we developed four hypotheses about factors influencing the proposal-decision time lag. We tested these hypotheses by analyzing all proposals for binding EU legislation made between 1984 and 1994 using event history analysis. The empirical analysis provides strong support for our hypotheses: (1) the use of qualified majority rule decreases the proposal-decision time lag; (2) participation of the Parliament increases the duration of the decisionmaking process; (3) measures pertaining to policy areas that constitute the functional core of the EU have shorter time lags than measures in other issue areas; and (4) Regulations and Decisions have shorter time lags than Directives. Our results show that the reforms of the EU's institutional framework had a substantial impact on decision-making efficiency. The two institutional variables have by far the greatest effect on EU decision-making speed. The introduction of qualified majority voting illustrates that the EU is capable of an effective institutional response to an expanding legislative agenda. The effect of Parliamentary participation, by contrast, suggests that decision-making efficiency is not the only goal guiding EU institutional reform and that member states are willing to tolerate a decrease in decision-making efficiency in order to achieve other goals, such as reducing the EU's "democratic deficit."

References

Baron, D., and J. Ferejohn 1989. "Bargaining in Legislatures." *American Political Science Review* 83:1181-1206.

Bueno de Mesquita, B., and F. Stokman 1994. *European Community Decision Making,* New Haven: Yale University Press.

SEC. 1979. "Report on European Institutions." Presented by the Committee of Three to the European Council, Brussels.

Ceccini, P. 1988. *The European Challenge: 1992,* Aldershot: Wildwood House.

Cooter R., and J. Drexel 1994. "The Logic of Power in the Emerging European Constitution: Game Theory and the Division of Power." *International Review of Law and Economics* 14:307-326.

Crombez, C. 1996. "Legislative Procedures in the European Community." *British Journal of Political Science* 26:199L288.

Crombez, C. 1997. "The Co-Decision Procedure in the European Union." *Legislative Studies Quarterly* 22:97-119.

Curtin, D. 1993. "The Constitutional Structure of the Union: A Europe of Bits and Pieces." *Common Market Law Review* 30:17-69.

Dehousse, R. 1995. "Constitutional Reform in the European Community: Are there Alternatives to the Majoritarian Avenue?" *West European Politics* 18:118-136.

Friedman, J. 1984. Super Smoother. Version 10/10/84. Stanford University.

Garrett, G. 1995. "From Luxembourg to Co-Decision: Decision Making in the European Union:' *Electoral Studies* 14:289308.

Garrett, G., and G. Tsebelis 1996. `An Institutional Critique of Intergovernmentalism." *International Organization* 50:269299.

Golub, J. 1999. "In the Shadow of the Vote? Decision Making in the European Community." *International Organization* 53:733-764.

Hartley, T.1994. *The Foundations of European Community Law.* 3rd ed. Oxford: Oxford University Press.

Heritier, A. 1996. "The Accomodation of Diversity in European Policy Making and Its Outcome: Regulatory Policy as a Patchwork." *Journal of European Public Policy* 3:149-167.

Krislov, S., C. Ehlermann, and J. Weiler. 1986. "The Political Organs and the Decision-Making Process in the United States and the European Community." In *Integration Through Law: Europe and the American Federal Experience,* ed. M. Capelletti, M. Seccombe, and J. Weiler. New York: De Gruyter.

Nugent, N. 1994. *The Government and Politics of the European Union.* 3rd ed. Durham: Duke University Press.

Peters, G. 1992. "Bureaucratic Politics and the Institutions of the European Community." In *Euro-Politics: Institutions and Policymaking in the "New" European Community,* ed. A. Sbragia. Washington D.C.: The Brookings Institution.

Sbragia, A. 1993. "Asymmetrical Integration in the European Community: The Single European Act and Institutional Development." In *The 1992 Project and the Future of Integration in Europe,* ed. D. Smith and J. Ray. Armonk: M.E. Sharpe.

Scharpf, F. 1988. "The Joint-Decision Trap: Lessons from German Federalism and European Integration." *Public Administration* 66:239-278.

Scharpf, F. 1997. "Economic Integration, Democracy, and the Welfare State." *Journal of European Public Policy* 4:18-36.

Sloot, T., and P Verschuren. 1990. "Decision-Making Speed in the European Community." *Journal of Common Market Studies* 29:75-85.

Steunenberg, B. 1994. "Decision Making under Different Institutional Arrangements: Legislation by the European Community." *Journal of Institutional and Theoretical Economics* 150:642-669.

Tsebelis, G. 1994. "The Power of the European Parliament as Conditional Agenda Setter." *American Political Science Review* 88:128-142.

Tsebelis, G., and G. Garrett 1996. "Agenda Setting Power, Power Indices, and Decision Making in the European Union." *International Review of Law and Economics* 16:345-361.

Tuma, N., and M. Hannan. 1984. *Social Dynamics: Models and Methods.* San Diego: Academic Press.

Van den Bos, J. 1994. "The European Community" In *European Community Decision Making,* ed. B. Bueno de Mesquita and F. Stokman. New Haven: Yale University Press.

Wessels, W 1991. "The EC Council-The Community's Decision Making Center." In *The New European CommunityDecision Making and Institutional Change,* ed. R. Keohane and S. Hoffmann. Boulder: Westview Press.