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### The Study of Decision-Making Speed in the European Union

Methods, Data and Theory



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The study of European Union (EU) decision-making speed holds both substantive and theoretical importance. Substantively, it helps identify which factors produce or avert legislative paralysis, an insight that is a necessary precondition for informed debate about potential EU institutional reforms. Indeed, I entered this field in 1994 while at the European University Institute in Florence to test whether the reforms contained in the famous 1987 Single European Act (SEA) had unblocked and expedited legislation. Theoretically, the study of EU decision-making speed helps us assess the utility of the tools we use to understand the EU, such as coalition and spatial models that emphasize formal rules, as well as deliberative and constructivist approaches that privilege informal norms.

As more people gravitated to the study of EU decision-making speed, survival analysis rightly became their method of choice. In a recent article (Golub, 2007), I defended three claims about survival analysis and EU decision-making: first, that all previous survival studies on the topic, including two of my own, suffer from methodological problems that render their findings unreliable; second, that researchers should apply a particular form of survival analysis, a Cox model that accounts for state changes in the data – by using time-varying covariates (TVCs) – and non-proportional covariate effects; third, that we should apply this methodologically superior approach to my 2002 TVC-coded data set of Directives.

The purpose of this forum was to subject my three claims to scrutiny and identify ways to modify and extend them. Thomas König, the author of two studies I discuss in my article, was invited to defend his previous methodological choices and to re-analyse his data in light of my criticisms (König, 2008). My co-authored piece (Golub and Steunenberg, 2007) grew out

of Bernard Steunenberg's recognition that time affects EU decision-making in a more complicated manner than I had originally recognized. Christopher Zorn (2007), in his contribution, draws particular attention to what he sees as important, understudied temporal processes evident in duration dependence.

In this article I respond to arguments raised by König and Zorn, take stock of what survival analysis has taught us about EU decision-making and discuss where further research should focus. The first section identifies and reinforces a number of uncontested points about survival analysis methodology and the selection and coding of variables. Although these might appear to be esoteric technical concerns, they have significant implications for determining what, if anything, we actually know about EU decision-making speed and how to go about learning more. The second section discusses four main issues for future research: how to deal with non-proportional covariate effects, which cases to count, whether to assign substantive meaning to duration dependence, and how to isolate the effects of rules, preferences and enlargement.

#### Uncontested issues

The contributions to this forum reveal broad agreement on certain aspects of survival methodology, several of the main factors that we expect to influence decision-making speed and the hypothesized direction of their effect. Table 1 presents these uncontested issues. The first column identifies the five separate methodological reasons I gave for previous survival studies being unreliable and why we therefore need to 'wipe the slate clean' and why researchers should employ a Cox model with TVCs and non-proportional covariate effects (Golub, 2007: 161–5). Leading methodologists, including Zorn, have made some of these same arguments (Zorn, 2007: fn8; Box-Steffensmeier and Zorn, 2001; Box-Steffensmeier and Jones, 2004), and König has never disputed them.

To reinforce the point that a log-logistic model is inappropriate for EU decision-making in general, and not just for my own data, I analysed König's online data set. Figure 1 presents four plots of the log-odds of survival against the log of survival time – for König's time-constant covariates instrument type (i.e. Directives versus non-Directives), agriculture, trade and the internal market. The appearance of straight lines can be misleading (Golub, 2007: 163), but an obvious deviation from parallel lines should lead us to reject the log-logistic model (Collett, 2003: 226). The figure demonstrates that the proportional log-odds assumption does not hold, so we can reject a log-logistic model for König's data. Moreover, since *by definition* the proportional hazards assumption (or, for the log-logistic model, the proportional log-odds



Table 1 Uncontested issues related to EU decision-making speed

Model choice and data treatment	Theoretical determinants of speed
Parametric models:  • require a prior theory about the baseline hazard  • have faulty diagnostics (e.g. transformed survivor plots)  • involve the log-logistic which requires verification of the proportional log-odds assumption	Formal voting rules: QMV shrinks the core, enlarges the win-set, increases the proportion of winning coalitions and thus expedites decisions
All models: must accommodate non- proportional covariate effects	Parliamentary involvement: cooperation and co-decision enlarge the core, shrink the win-set, decrease the proportion of winning coalitions and thus slow decision-making
All data sets: must code cases for state changes by using TVCs	Member state preferences: increasing Council heterogeneity enlarges the core, shrinks the win-set and thus slows decision-making; decreasing Council heterogeneity has the opposite effects

assumption) no longer holds when a model includes TVCs (Collett, 2003: 146, 253; Therneau and Grambsch, 2000: 127; Golub, 2007), if König were to fix his data set and recode cases properly to reflect the enormous number of state changes, especially the periodic shifts in member state preferences, it would greatly exacerbate violations of the proportionality assumption and render the log-logistic model even less appropriate.

The second column of Table 1 presents currently uncontested theoretical issues. It identifies three basic factors that we all agree bear directly on decision-making speed and our shared view of their hypothetical effects. In short, formal voting rules, the formal powers of the European Parliament and Council preference heterogeneity each affect the size of the core, the status quo win-set and the proportion of winning coalitions, and changes to these stability measures should directly affect decision-making speed (for details, see Golub, 2007: 157-9).

Two key conclusions flow from all these uncontested points. First, much of what we thought we knew about EU decision-making is unreliable since it was derived from studies that applied the wrong survival methodology, often to fundamentally miscoded data. Second, reliable findings about any determinant of decision-making speed can be achieved only with data sets

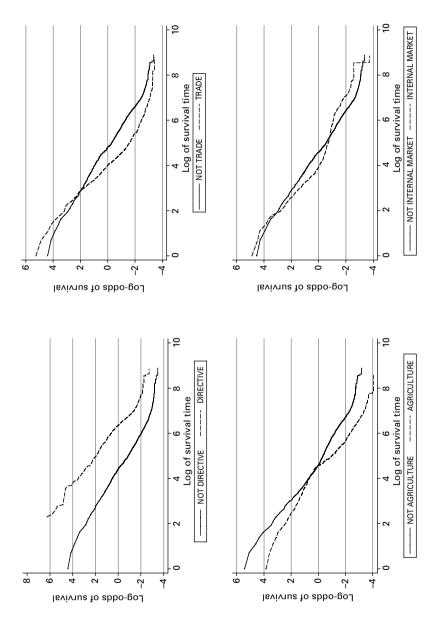


Figure 1 Tests of the proportional log-odds assumption for König's data.



that code TVCs and models that accommodate non-proportional covariate effects and adequately justify their treatment of the baseline hazard.

#### Issues for future research

Having reached agreement on some key aspects of model specification and data coding, I see four key issues for future research. These are how to deal with non-proportional covariate effects, which cases to count, what to make of duration dependence exhibited by the baseline hazard rate, and how to isolate the effects of rules, preferences and enlargement.

#### How should we deal with non-proportional covariate effects?

As I noted (Golub, 2007: 164), and as Zorn (2007) reminded us in his comment, sometimes the coding of a covariate remains fixed over a case's lifetime, but the effect the covariate has on the likelihood a proposal will be adopted changes with time. How should we handle these situations? In his comment, König does not directly contest the need to deal with such nonproportional covariate effects, but argues that doing so demands a preexisting theoretical foundation and that adding B\*ln(t) terms to models of EU decision-making may not adequately remedy proportionality violations (König, 2008).

As a long-term goal, scholars should certainly seek to develop a satisfactory theory about the precise nature of non-proportionality in various covariates. But simply ignoring non-proportional effects while we await such a theory does not improve the reliability of previous studies nor does it get us any closer to the objective. Progress must follow the usual scientific process of first identifying the phenomena and then trying to explain them as best we can, through trial, error and incremental refinement. In our piece, Steunenberg and I took a first step by discussing why the effects of some covariates wear off or reverse direction. Naturally, though, we will need to revisit our arguments in light of future research. Fortunately, we have formal tests available to detect proportionality violations and interactive terms to correct them (Box-Steffensmeier and Jones, 2004; Box-Steffensmeier and Zorn, 2001). These were used in Golub (2007) and Golub and Steunenberg (2007) to select B\*ln(t) terms that proved superior to other options such as B\*t. The key point is that advances in theory will go hand in hand with the development of new covariates that govern decision-making speed and experimentation with alternative interaction terms.

#### Which cases should we count?

A second important issue is which cases we should count if we want to draw important inferences about EU decision-making. My view is that we should focus on Directives, since the typical Directive is far more controversial and significant than the typical Regulation or Decision. Counting the latter two instrument types adds considerable background noise to the analysis. An alternative approach, which König supports, is to gather a sample that is representative of the full corpus of EU law.

Those inclined towards assembling a fully representative sample must take care not to lump together the three instrument types. If instrument types are actually that different, then a properly specified survival model would require a battery of interactive terms - of the sort Directive\*QMV, Regulation\*QMV, etc. (Golub, 2007: 166). Neither of König's survival studies includes such terms, and, remarkably, the models reported in his most recent study do not control for instrument type at all.

The 'include everything' approach is more of a liability than an asset because a fully representative sample is useful only if you subscribe to the far-fetched notion that there are no such things as trivial cases. Which cases, then, should we exclude to improve the signal to noise ratio and obtain a sample representative of significant proposals? König does not provide any criteria for doing this, but he does contest my sampling strategy on the grounds that Regulations, and perhaps even Decisions, are just as likely as Directives to be classified as Council 'B'-items in his data set. In other words, if there is background noise ('A' points), König thinks it is spread evenly across Directives, Regulations and Decisions.

As with instrument type, those inclined towards König's view of sampling will need to pay greater attention to model specification. All of König's studies lump together 'A' and 'B' proposals with no dummy variable, let alone the necessary interactive terms to distinguish the unique effect of each covariate on 'B' points.

There are powerful reasons, though, for simply ignoring the A/B distinction. Conceptually, it is simply not a proxy for controversy or significance. As Hagemann and de Clerck-Sachsse (2007: 12) observe, 'the records of "A" and "B" points on the Council's agenda do not in any way reflect the level of disagreement or bargaining at the ministerial level', since most proposals eventually wind up as 'A' points by the end of a lengthy back-and-forth process between the Committee of the Permanent Representatives (COREPER) and the Council. What is surprising 'is that "B" points have been adopted at all' (Hagemann and de Clerck-Sachsse, 2007: 12); having been agreed prematurely, as it were, one could even argue that 'B' points are less controversial than 'A' points.

Much better proxies for a proposal's level of significance and controversy are how many rounds of COREPER meetings were needed, and, most obviously, how long it took before the proposal was either adopted or withdrawn. The corpus of EU legislation is full of contentious proposals that are recorded as 'A' points. Regulation 2003/150 on weapons importation taxes, for example, was adopted after 15 years of negotiations. Likewise, there are plenty of trivial proposals that were treated as 'B' points. Regulation 90/836, for example, which extended the period of aid for skimmed milk processing by two months, was adopted in three days. These are not just isolated examples, they are symptomatic of the fact that status as an 'A' or 'B' point tells us nothing about the inherent controversy or significance of a proposal. As shown in Table 2, the typical 'B' point is just as trivial as the typical 'A' point, both requiring only three months of negotiations.

Instead of focusing on 'B' points and privileging thousands of cases such as Regulation 90/836 while demoting thousands of cases such as Regulation 2003/150, the better strategy is to select all proposed Directives because they are typically more controversial, as shown by the survival times in Table 2. Having noted this huge disparity himself (Schulz and König, 2000: 660), it is surprising that König does not address it in his contribution and continues to ignore the implications for case selection.

König's other objections to focusing on Directives are either wrong or overstated. In his comment he contends that this strategy ignores the four policy sectors of transport, trade, the budget and fisheries. In fact, Directives were often used for transport, and not infrequently for trade. They were also used for budgetary policy and, moreover, nearly all legislation in this field is uninteresting from a survival standpoint because it is adopted yearly and under a tight schedule. Fisheries presents the biggest problem, although Directives did address support for fish life, control of fish disease and regulation of fish-processing undertakings.

If we could identify the most important Regulations and Decisions in various EU policy sectors, one way to improve upon my case selection

	All instrum	ents	Regulation decisions	s and	Directives	
	'A' points	'B' points	'A' points	'B' points	'A' points	'B' points
Median	92	95	80	67	509	539
Mean	197	219	147	134	596	690
N	6644	1002	5899	848	745	154

Table 2 Days to adoption for Council 'A' and 'B' points in König's data set

method would be to add only these to my Directives data set while still intentionally excluding the vast number of representative but trivial proposals. But this might not be necessary since, arguably, you can generalize from Directives to the universe of significant cases, which would include Regulations such as 2003/150 that also took years to agree. The profile of landmark fisheries Regulations also resembles that of Directives - Regulation 170/83 on the conservation and management of fishery resources took over six years of negotiations, and Regulation 298/83 on multi-annual guidance programmes took over three years.

#### Should we assign meaning to the baseline hazard?

No study to date has tried to interpret duration dependence evident from the baseline hazard. Like many others, perhaps including König, I regard duration dependence simply as a nuisance. Zorn disagrees. For him, efforts to understand the shape of the baseline would constitute a big step along the path towards more complete models of EU decision-making (Zorn, 2007: 572).

To support this view, Zorn offers a distinction between 'spurious' duration dependence owing to unobserved heterogeneity and omitted covariates, substantively interesting dependence caused by the propensity of the process under study towards self-perpetuation (Zorn, 2007: 574; see also Zorn, 2000). I find this distinction unhelpful, since 'true' duration dependence is merely unobserved heterogeneity awaiting successful observation. If one were capable of including all the relevant covariates in the model, the appearance of duration dependence would vanish (Golub, 2008). Note that this is unlike the situation where TVCs cause non-proportional covariate effects. With TVCs, these effects - which we could also call variable-specific duration dependence - will remain, regardless of how many variables we include (Golub, 2008).

Although some political scientists might 'have tended to imbue duration dependence with substantive importance' (Zorn, 2000: 369), this produces ambiguous claims. Consider the famous example of international rivalries where the hazard of a rivalry ending rises over time. The theoretical interpretation placed on this 'true' positive duration dependence is that rivals 'tend to wear themselves out and become more willing to settle their disputes over time' (Zorn, 2000: 369). But what does this suggestive phrase actually mean? To have any substance, the twin phenomena 'wear themselves out' and 'become more willing to settle' must be observable and measurable, and thus amenable to inclusion in the model. Of course the same goes for nonproportional covariate effects not caused by TVCs, discussed above, where the eventual objective should be to observe and model why exactly the effects of a covariate 'wear off' over time.

Reaching this objective will be a long and complicated process, but the best way to investigate duration dependence is to employ the particular type of Cox Model I used in my article, since picking an erroneous parametric shape, overlooking TVCs or ignoring non-proportional covariate effects will produce incorrect inferences about the baseline (Zorn, 2000: 370; Golub, 2008). Moreover, to address Zorn's concerns about heterogeneity and potentially different duration dependence within subsets of the data (Zorn, 2000; 2007: 570, 574), one could fit a Cox model with frailty or a stratified Cox model that allows multiple baselines.

#### How do we isolate the effects of rules, preferences and enlargement?

As mentioned earlier, there is broad agreement that decision-making speed varies with formal voting and Parliamentary rules as well as with Council preferences. Table 3 presents an overview of what we have learned from the various survival analyses about these and other factors. It illustrates that our knowledge is still quite limited and that considerable work remains. Cells marked 'no data' or 'not coded' indicate that a given study is silent about a particular factor. More common is where a study has fitted the wrong sort of model to miscoded data, rendering conclusions about a particular factor 'unreliable'.

We know especially little about sector-specific decision-making speed, the effects of member state preference heterogeneity and the interaction between preferences and other covariates. In his comment, König reiterates some of his previous claims about these issues, but they remain unreliable because he did not take the opportunity this forum provided to fix his data and fit a more appropriate model. Nor has he released his data on member state preferences so other people could fix them. Even my recent studies offer quite limited insight into individual policy areas; they show that legislation is adopted just as quickly in new sectors as in traditional ones, but they do not investigate distinctions between traditional sectors. Future work should rectify this.

As for member state preferences, my measures remain crude and indirect, based on a series of dummy variables for four EU enlargements, three time periods and the presence of one notoriously anti-EU political leader, Margaret Thatcher. Party manifestos and Eurobarometer data offer more direct measures of national preferences, but these indicators are useful only if coded as TVCs, because they change with every government reshuffle and each new survey. Ideally, preference TVCs should also code shifts that occur between elections, as a result, for example, of the historic resolution of the budget crisis in 1983, German reunification, the end of the cold war, agreement on the Amsterdam or Nice treaties, or other notable events.

Table 3 Overview of conclusions about factors affecting EU decision-making speed

	Golub (1999)	Schulz & König Golub (2000)	Golub (2002)	König (2007)	Golub (2007)	Golub & Steunenberg (2007)
Luxembourg Compromise	Unreliable	Not coded	Unreliable	Not coded	No effect; no consensus norm	No effect; no consensus norm
Pre- vs. post-SEA QMV	Unreliable	Not coded	Unreliable	Not coded	Post-SEA effects less than or equal to pre-SEA effects	Post-SEA effects indistinguishable from pre-SEA effects
Pre- vs. Post-Maastricht Treaty QMV	Unreliable	Not coded	Unreliable	Not coded	Moderately reduced effects; mild consensus norm	Slightly reduced effects; almost no consensus norm
Amsterdam & Nice treaties	No data	No data	No data	No data	No data	No data
EU enlargements	Unreliable	Not coded	Unreliable	Not coded	Expedite decisions	Expedite decisions
Parliament	Unreliable	Unreliable	Unreliable	Unreliable	Slows decisions	Slows decisions
State preferences	Indirect & unreliable	Indirect & unreliable	Indirect & unreliable	Unreliable	Indirect measures; heterogeneity slows decisions (e.g. Thatcher)	Indirect measures; Indirect measures; heterogeneity slows heterogeneity slows decisions (e.g. Thatcher)
Instrument type	No data	Unreliable	No data	Not coded	No data	No data
Policy sectors	Unreliable	Unreliable	Unreliable	Unreliable	'New' sector laws not slower	'New' sector laws not slower
Backlog	Unreliable	No data	Unreliable	No data	Expedites decisions	Expedites decisions

An even bigger long-term challenge is to distinguish between the effects of different factors. For instance, changes to the core and changes to the proportion of winning coalitions should both affect speed, so it will also be necessary to retain EU enlargement dummies alongside better TVCs for member state preferences. We must also retain time period dummies to identify the presence or absence of 'consensus', since this norm has supposedly operated throughout much of EU history, independent from changes to Council heterogeneity.

#### Conclusion

As with any scientific endeavour, the only way to make progress in our understanding of EU decision-making is to learn from our previous mistakes and try not to repeat them. This goes for the types of models we fit, the way we code data and the theories we construct. The follow-up discussion of my original EUP article has revealed important agreement on some of these matters. Nobody contests that researchers must use data sets that employ TVCs to code state changes, must not fit parametric models without adequate justification and must not ignore non-proportional covariate effects. There is also agreement that we expect formal QMV to speed decisions, and formal involvement of the European Parliament as well as Council preference heterogeneity to slow them. These uncontested points have implications for how we proceed in the four areas I have identified where there is less agreement or where we have few reliable findings.

In the area of non-proportional covariate effects, I agree that interpreting them is not straightforward and ascertaining their root cause is even trickier. But at least we know that simply ignoring them produces unreliable results and gets us no closer to a theory of decision-making processes. Steunenberg and I have made a modest start, and a fuller picture will emerge with the discovery of new covariates and better interactive terms.

In the area of case selection, I have argued for a narrow focus on Directives, augmented perhaps with the most important Regulations and Decisions provided that these could be identified. Others might prefer König's 'include everything' approach, which aims for a sample representative of all EU legislation, but if they, too, ignore TVCs, fit the wrong sort of survival model and do not try to filter out background noise, this approach will produce unreliable findings about trivial cases.

Much more work is needed to isolate the effects of rules, preferences and EU enlargement. Progress will come mainly from the construction of better TVCs that capture periodic shifts in member state preferences and terms that interact these preference TVCs with dummies for policy sectors, successive enlargements and periods in which informal norms might have operated.

A final area where work might focus is understanding duration dependence. I remain sceptical about trying to imbue duration dependence with any substantive meaning but, for those who wish to do so, a Cox model with TVCs and non-proportional covariate effects offers the best way to study the baseline hazard.

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