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GRIDLOCK AFTER ENLARGEMENT? AN ANALYSIS OF LEGISLATIVE OUTPUT IN THE EUROPEAN UNION*

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Abstract

In this paper we analyze the impact of European Union (EU) enlargement on EU policy-making. Most theories of social choice argue that group-size negatively affects the efficiency of decision-making. Veto player theory, for instance, claims that adding veto players increases policy stability. Similarly, a-priori voting power theory expects legislative output to decline with shrinking passage probabilities. Building on these theories, we derive a set of hypotheses on group size and decision-making. We test these theories by estimating count models on a dataset of EU legislative output from 1976 to 2009. While we find some evidence for a reduction of the number of legislative acts passed, this especially holds for the production of directives and regulations, the effects are smaller than expected by our theories. We also present an analysis of legislative output in the Common Fisheries Policy and the Common Agricultural Policy. For fisheries we can show that group heterogeneity in addition to group-size has an impact on policy production.

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Introduction

Eastern enlargement is a major step in recent European integration history. Starting from a Community of six, the European Union (EU) now consists of 27 member states with almost 500 million citizens. While this certainly represents a success story, many questions are asked today about the effects of enlargement for EU governance (cf. e.g. Bailer et al. 2009; Zielonka 2006). This article analyzes the consequences of enlargement for EU legislative output.

Theoretically, we conceptualize enlargement as an increase in group-size. We first introduce and compare a-priori voting power and veto player theory. These theories come to similar conclusions as to the effects of group-size on policy stability; however, they put forward different mechanisms. Building on these theories, we derive a set of hypotheses about the effects of enlargement on EU legislative output. The first hypothesis centers on total legislative output, hypothesis two and three focus on specific types of legislative acts. This disaggregation aims at getting a better understanding of some mechanisms contained in the theories. In particular, we distinguish decisions and directives and regulations and test our theories on acts related to the Common Fishery Policy (CFP) and the Common Agricultural Policy (CAP). While directives and regulations are understood as being the more important acts, the analyses of the policy areas enables us to test hypotheses about heterogeneity.

We test our hypotheses on a data-set covering EU lawmaking from 1976 to 2008. Negative binomial regression models gauge the effects of an increase of member states on EU legislative output. We present some supporting evidence for veto player theory's prediction of a reduction of legislation going along with an increase of group size. The models that build on the concept of passage probability perform weaker. In general, however, the effects are smaller than expected on the level of total legislative output. But there is more evidence for effects on regulations and directives. In addition, we observe a reduction of acts passed in the CFP and the CAP. The case of the CFP highlights the importance of including suitable measures of heterogeneity into the analyses of group-size effects.

Theory

How does enlargement affect EU decision-making? We here conceptualize enlargement as an increase of group size. First studies on group size go back to early sociological research (cf. for instance Simmel 1992; Michels 1962; Weber 1921). There is a strong experimental tradition; and the variable has also found its way into prominent political science theories (cf. for instance Olson 1965; Alesina and Spolaore 2003). We here draw on two rationalist theories of group size and decision-making to derive a set of hypotheses: a-priori voting power and veto player theory.

The EU a-priori voting power literature builds on early works by Penrose (1952) and Banzhaf (1965, 1966) and is based on the calculation of all possible coalitions and the fraction of coalitions within the Council that reach a qualified majority. Since the voting threshold and the institutionalized weight of the different actors are its main building blocks, this approach has a natural focus on institutions. Accordingly, it has extensively been employed for studying the effects of possible institutional changes in the European Union (cf. Baldwin et al. 2000; Baldwin and Widgrén 2003, 2004; Felsenthal and Machover 2004; Johnston 1995). Often the comparison of the amount of

potential influence of different actors over the possible outcomes, i.e. the a-priori voting power, is at the heart of such analyses (Felsenthal and Machover 2004: 3). But a-priori voting power based approaches have also been used for the study of possible enlargement effects in the EU (cf. Baldwin et al. 1997; Bilbao et al. 2002; Baldwin and Widgrén 2003, 2005). How does enlargement affect finding winning majorities in the EU? In the a-priori voting power literature, the 'efficiency' or 'ability to act' dimension is captured via a passage probability which measures the likelihood that a randomly selected issue would pass in the Council of Ministers (Baldwin and Widgrén 2005: 6). The randomness of an issue means that each EU member would be equally likely to vote for or against it (Baldwin and Widgrén 2003: 3). The passage probability then is the fraction of winning coalitions of all possible coalitions of the voters or, in the EU case, of member states (assuming that all coalitions are equally likely). For Baldwin and Widgrén (2003: 4) it is "a crude measure, but it is objective, precise and its strength and shortcomings are clear." For instance, Baldwin and Widgrén (2004: 6) predict, that under the voting rules preceding the entry into force of the Nice Treaty provisions in November 2004 (while the Nice Treaty entered into force on February 1st 2003, the changes of qualified majority voting (QMV) were only enacted in November 2004) the passage probability should decrease from 7.8 per cent in the EU 15 to 2.8% in the EU 25. While it should slightly rise to 3.6 per cent under the Nice rules, the accession of Romania and Bulgaria should lead to another decline to 2.1 per cent. The authors' prediction thus is that decision-making becomes more cumbersome after enlargement and fewer acts should be passed in the EU.

With its probabilistic focus on formal institutions, the a-priori voting power literature has been criticized for working with oversimplified assumptions. In particular, its neglect of preferences, the Commission's agenda setting activities, member states' actual voting behavior, informal procedures and norms have raised doubts on its external validity (cf. Albert 2003; Garrett and Tsebelis 1999, 2001; Moberg 2002; Lane and Berg 1999; Pajala and Widgrén 2004; Steunenberg et al. 1999; Selck 2005). Other contributions to the study of group size and decision-making and, more specifically, EU enlargement effects therefore build on a spatial modeling tradition (Dobbins et al., 2004; König and Bräuninger, 2004; Tsebelis and Yatanagas, 2002). Especially veto player theory, in its simplicity, can be considered a compelling contribution to this debate. In veto player theory, the dependent variable is policy stability. This concept that is closely related to efficiency or the capacity to act, is generally measured in terms of a departure from the legislative status quo. Two main components determine policy stability: the size of the winset of the status quo and the size of the core (Tsebelis 2002). While the winset of the status quo is the set of outcomes that can defeat the status quo, the core is the set of points with an empty winset, i.e. the points that cannot be defeated by any other policy proposal. As the core enlarges and/or the winset shrinks, policy stability increases. Since adding new veto players either reduces the winset (or leaves it the same) or increases the core (or leaves it the same), veto player theory expects policy stability to rise with a growth in group size (Tsebelis 2002: 25). Whether policy stability rises or not, depends on the distributions of preferences in the policy space. As the heterogeneity of the actors, i.e. their distances within the policy space, grows, policy stability increases (cf. Tsebelis and Chang 2004).

In the case of EU enlargement, an increase in the number of states historically has always been accompanied by an increase in heterogeneity (cf. König and Bräuninger 2000, 2004; Zimmer et al. 2004). Neither the preferences of the economically weaker states such as Greece, Spain and Portugal, nor those of the high-standards Nordic countries such as Sweden and Finland were fully absorbed by the preference set of the incumbent member states. According to veto-player theory,

the higher degree of heterogeneity going along with an increase of group size should lead to an increase of policy stability (cf. more generally Ferejohn et al. 1984).

In order to get a better understanding of veto player theory's predictions, we have simulated the relative effects of a change of group size and heterogeneity on policy production (cf. figure 1). The simulation closely builds on Steunenberg (2002), our simulations however are slightly more nuanced as we include more group size constellations and different degrees of heterogeneity; in addition, we are not interested in deriving a strategic power index. Our set-up follows a basic "take-it-or-leave-it" game (cf. Romer and Rosenthal 1978). The dependent variable here is the adoption rate of legislation. The simulations assume perfectly informed actors with Euclidean preferences in a one-dimensional policy space ranging from 0 to 100. The actors' ideal points are normally distributed (mean 50) within this policy space. The 'number of members' variable follows the historical development of the EU: with six enlargement rounds our member's variable takes seven values: 6, 9, 10, 12, 15, 25, and 27. For reasons of simplicity we – in contrast with, for instance, Crombez (1996) – do not include the European Parliament into our model. The degree of heterogeneity is determined by the standard deviation of the normal distribution, growing from 0 (low heterogeneity) to 50 (high heterogeneity). The status quo and the Commission's proposal are then drawn from a uniform distribution. Subsequently the simulations assess whether the Commission's proposal is passed by a winning coalition (depending on the corresponding historical voting rule for each group size) within the Council. For each group size and degree of heterogeneity the simulations are run over 100,000 different policy scenarios, with 1000 different random seeds.

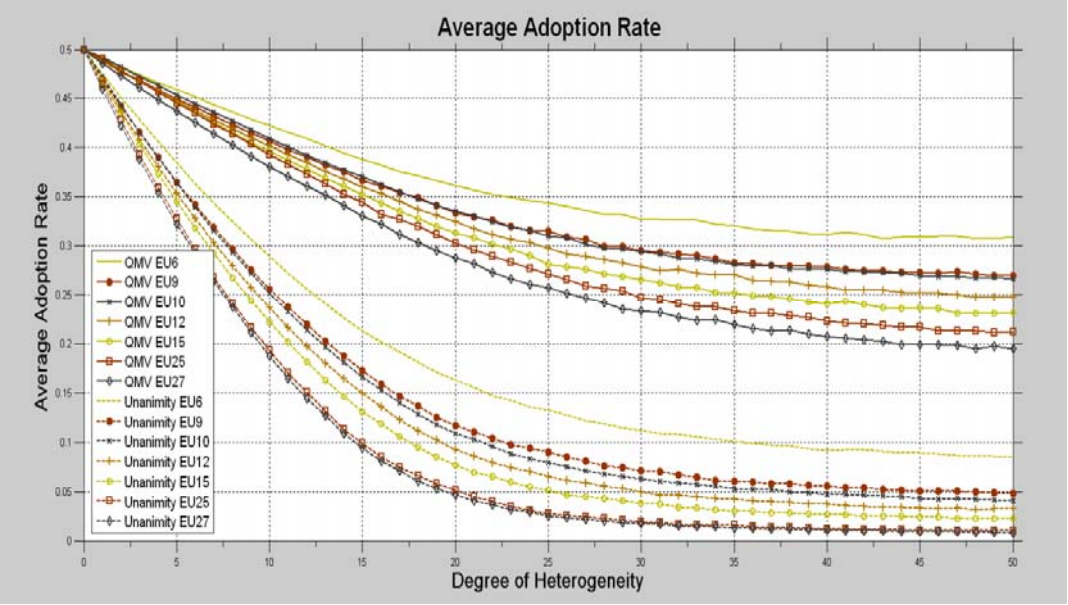

Figure 1: Simulations of Average Adoption Rates

The lines in the upper half of the graph display the simulated adoption rates under QMV. The lower lines are for unanimity. When holding the degree of heterogeneity constant (on the X-axis), we see that an increase in group size leads to an increase of policy stability. For instance, in the EU 6, ten per cent of all unanimity acts should be passed with a 'degree of heterogeneity' of 35. For the EU 9 the adoption rate drops to about 6 to 7 per cent. In the EU 27, finally, 2 per cent of all proposed acts are passed under unanimity according to this simulation. We see that the adoption rates between the EU 25 are maximum 3 per cent lower than those of the EU 15 (under unanimity with a 'degree of

heterogeneity' of 15). But if we think that heterogeneity is likely to rise with an increase of group size, the effects are stronger (for instance, if we compare the unanimity adoption rate of the EU 15 with a heterogeneity of 15 with the adoption rate of the EU 25 with a heterogeneity of 20. Here, the simulation predicts a reduction of about 8 per cent). So with a growing heterogeneity, policy stability rises, too. As expected, this effect is stronger under unanimity than under QMV.

Despite their different theoretical foundations and the different mechanisms they put forward, both a-priori voting power and veto player theory expect policy stability to rise with a growing group size. Tsebelis and Yataganas (2002: 304), for instance, conclude that "it will be almost impossible to alter the legislative status quo" and Baldwin and Widgrén (2004:6) find that "the Nice Treaty rules cripple the EU's ability to act since they make it very difficult to find winning majorities" in an enlarged Union. Our first hypothesis accordingly reads:

H1: As the number of EU member states increases, policy stability rises.

In the empirical part we will estimate models that use different measures suggested by a-priori voting power and veto player theory in order to establish a link between these theories and policy stability in the EU. We will operationalize policy stability by referring to EU legislative output. In particular, we will count the production of legislation passed by the EU over time. If less legislation is passed, this is considered as an increase of policy stability. Policy production has been used as a measure for testing the impacts of divided government (cf. for instance Binder 1999; Mayhew 1991; but also Frendreis et al. 2001), and we think that it is also well suited to, at least in a first step, gauge enlargement effects.

But should an EU enlargement affect all legislative acts in a similar way? While a-priori voting power theory does not take preferences into account and therefore is predestined for the analysis of total legislative production, in veto player theory preference heterogeneity plays a crucial role. We introduce two ways of disaggregating total legislative output in perspective of possible effects linked to the preferences of member states (in the empirical part, we use a data set based on PreLex which does not contain direct information about member states' positions). First, in the EU, three types of binding legislation can be identified: decisions, regulations, and directives. Most decisions are administrative acts oriented at specific member states with a limited general impact (Duina 1997). Regulations and directives are more substantive legislative acts, not only touching on more salient issues but also entailing a greater conflict potential. As group-size effect should be larger when the degree of heterogeneity is high and controversial issues are debated, we should observe a stronger reduction in the number of regulations and directives after enlargement rounds than in the number of decisions. This is captured by our second hypothesis:

H2: As the number of EU members increases, the number of adopted Regulations and Directives decreases.

In the EU, structural variables only to a small extend inform about the preferences of member states. Coalitions are usually considered as unstable and shifting if not from issue to issue than at least from policy area to policy area. This has implications for the test of veto player theory since measuring heterogeneity can be problematic when working with aggregate data. What is the right measure of heterogeneity over all policy areas? In order to circumvent this problem, we follow the advice of Hageman and De Clerck-Sachsse (2007: 39) and turn to specific policy areas. There should be differences between policy areas; in particular, some policy areas are often reported as being more

conflict prone than others (cf. Zimmer et al. 2004; König and Bräuninger 2000, 2004). In such areas we expect to find more gridlock situations. For instance, before Southern and Eastern enlargement, the Common Agricultural Policy was expected to create tensions between new and old member states (cf. König and Bräuninger 2004). Also the Common Fishery Policy is often described as a controversial policy area in the EU (cf. Lequesne 2002). We therefore propose to disaggregate the total legislative production into different policy areas. This should contribute to unveiling the mechanisms of enlargement effects. This is captured by hypothesis 3:

H3: In controversial policy areas enlargement leads to a reduction of policy output.

Thus while the first hypothesis addresses the issue of policy stability at the aggregate level of EU legislative output, the last two hypotheses demand a disaggregation of our data. This will be explained in more detail in the following part on methods and data.

Methods and Data

Policy stability has a qualitative and a quantitative dimension. Qualitatively, an increase of policy stability means that outputs of the decision-making process are less far reaching and tend towards the status quo. The quantitative dimension, on the other hand, relates to the legislative output in terms of the number of binding acts passed. Thus it is a more radical measure postulating an increase of gridlock and a quantitative reduction of legislative output. Both the concept ability to act as used by the passage probability literature as well as the concept of policy stability used by veto player theory can be linked to the size of legislative output. We will here concentrate on quantitative output, since qualitative policy shifts would demand other types of data (as for instance, the type of data used by Thomson et al. 2006). As already stated above, legislative output is a suitable variable to measure the capacity to act of a political system as highlighted, for instance, by the literature on the effects of divided government on lawmaking (Mayhew 1991; Binder 1999). In the EU literature, legislative output has been used as an indicator for integration (cf. Fligstein and Stone Sweet 2002).

Since the dependent variable of our hypotheses demands a count of EU legislative output, ordinary least squares estimates can be inefficient, inconsistent, and biased (King 1988; Long 1997). We therefore use count models. Because our data exhibits overdispersion, i.e. the variance of the count is larger than its mean, we estimate negative binomial regression models (cf. Long 1997: 230-238; King 1998: 51-52; Long and Freeze 2006).

We estimate our count models on a dataset containing information on the EU legislative process from January 1976 to September 2008. The number of acts passed is summed up per month and we therefore have 393 observations. Using a computer program, we deparsed and combined this data from the PreLex webpage. We opted for assembling our own dataset because the dataset provided by König et al. (2006) does not cover Eastern enlargement. In addition, starting our analysis in 1976 allows us to take the Greek accession into account. Our dataset spans over three decades and five enlargement rounds. Namely the Greek enlargement in 1981, the accession of Spain and Portugal in 1986, the accession of Austria, Sweden, and Finland in 1995, the Eastern enlargement in 2004, and finally the accession of Bulgaria and Romania in 2007 are taken into account. All in all, we have identified more than 13567 regulations, decisions, and directives that were successfully adopted by the legislator from the first of January 1976 to the 30st of September 2008.

The output of EU decision-making in quantitative terms is illustrated by figure 2. The mean output per month is calculated for the periods with different numbers of member states. After the accession of Greece and after the Southern enlargement of 1986 the average output per month increased. After all following enlargement rounds, legislative output decreased. Legislative output per month reaches its peak with 164 acts adopted in December 1985 prior to Southern Enlargement and its minimum in various August months.

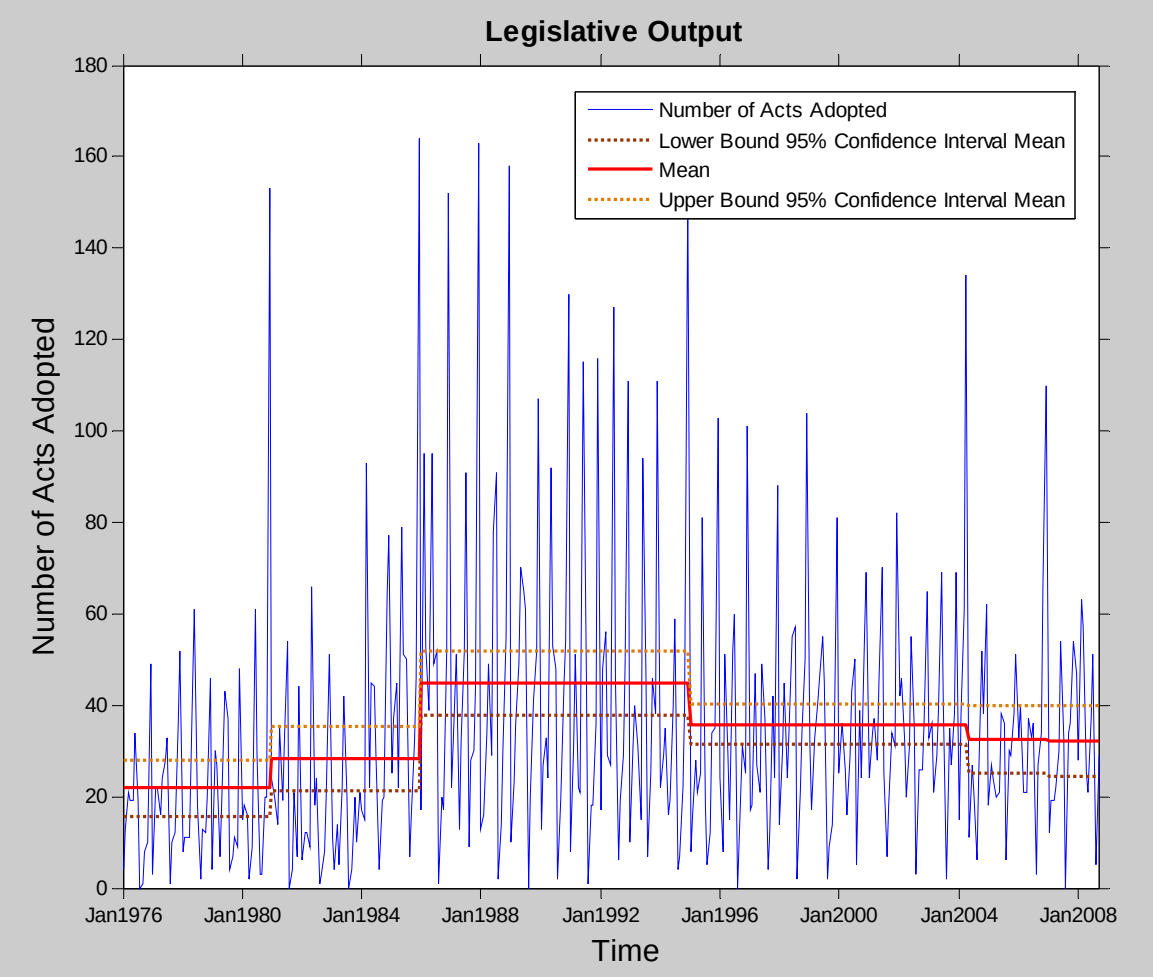

Figure 2: EU Legislative Output 1976-2008

When assessing hypothesis one, our model is estimated on all types of binding legislative acts. In order to analyze hypothesis two, the model is estimated on a subset of this dataset, containing only Regulations and Directives. For testing hypotheses three we had to include only those acts that were related to the Common Fishery Policy (CFP) and the Common Agricultural Policy (CAP). For the CFP-dataset we had to combine information on 'fields of activity' and the 'fishery DG' contained in PreLex since each of these two sources does not cover the entire time span. Linking the two types of information does not seem to be problematic since for those policy areas where both types of information are available the data is broadly in line with one another. For the CAP we include all those acts that were issued by DG Agriculture.

Explanatory Factors

Several factors influence EU legislative output. Next to horizontal integration in the form of enlargement, sectoral integration, defined as new policy areas being regulated at the EU level, should have an impact on legislative output. Additionally, the role of the European Parliament (EP) has changed dramatically over the past three decades (Rittberger 2005; Hix et al. 2007). While the EP has become almost as important as the Council within certain EU lawmaking procedures, undoubtedly changes within the decision-rule of the Council have had an impact on possible winning coalitions and therefore legislative output. Finally, anticipation should play an important role within pre-enlargement legislative output. Anticipating more cumbersome decision-making after enlargement, old member states might adopt controversial legislation before the new states enter the club, ultimately influencing the outcomes. The higher number of legislative acts adopted prior to enlargement rounds that we observe in figure 2 could, in turn, lead to fewer acts being adopted thereafter. It is thus important to include anticipation as a control variable into our analysis. The following factors are therefore included into our empirical analysis.

Passage Probability

In our models, we use two different specifications for passage probability. In the first case we take up the passage probabilities that Baldwin and Widgrén (2004: 6) calculated for qualified majority voting (since unanimity is the exception rather than the rule in today's EU). Starting from a passage probability of 14.7 per cent for the EU9, it drops to 13.7 per cent for the EU10, to 9.8 per cent for the EU12, to 7.8 per cent for the EU15, to 2.8 per cent for the EU25 until November 2004 (when the Nice Treaty voting rules entered into force), to then, for once, rise to 3.6 per cent for the EU25 under the Nice Treaty provisions, to then again drop to 2.1 per cent for the EU27. For every month the corresponding passage probability is recorded. In the second case, we only include dummy variables for the different periods, starting from the EU9 and covering all changes in terms of the passage probability. In order to facilitate interpretation the dummies always score 'zero' before a passage probability enters into force. For the rest of the time, the variables are then coded 'one'.

The Number of Members

In light of veto player theory the principal variable of interest accounts for the number of EU members. It increases from nine in January 1976 to 27 in September 2008. As the number of EU members increases, the hypothesis expects a reduction of legislative output. We assume that at the level of total legislative output, an increase in group-size always is accompanied by an increase in the heterogeneity of preferences held by the Union members. For total output, the 'Members' variable therefore not only captures the increase of group-size, but also the greater degree of preference heterogeneity within the EU after each enlargement round. But for the different policy areas addressed by hypothesis three we introduce different measurements of heterogeneity. In addition to the continuous measurement of 'Members' we have constructed dummy variables for the different group-sizes in the EU (contained in our last set of models). This variable scores 'zero' before a specific group-size is reached and 'one' thereafter.

Heterogeneity

As noted above, deriving a suitable measure of heterogeneity for all countries over all types of legislation seems problematic. We therefore concentrate on two specific policy areas in order to include variables of heterogeneity: CFP and CAP.

Fishery Heterogeneity per GDP is the standard deviation over all countries' fishery tonnage production divided by their GDP. This measure should account for the relative importance of fisheries for the different member state economies. The information on the tonnage production was retrieved from the webpage of the 'Food and Agriculture Organization of the United Nations. Fisheries and Aquaculture Department'. Because of the data structure – only yearly data was available – this variable only varies on a yearly basis.

A second heterogeneity measurement draws on the distinction made in the CFP between so-called 'friends of fish' and 'friends of fishing' (a similar classification is used for environmental policy by Holzinger (1997: 60) when she distinguishes 'front runners', 'hesitants' and 'in-betweens'). In the CFP the following countries are classified as 'friends of fishing': France, Greece, Ireland, Italy, Portugal, and Spain (source: http://ictsd.net/i/news/biores/8728/). Sweden, Germany, the Netherlands and the United Kingdom are classified as 'friends of fish'. In our models, 'number of friends of fish' is simply a count of the number of 'friends of fish'; accordingly 'number of friends of fishing' is simply a count of the number of 'friends of fishing'. 'Friends of Fish' is a variable that records the proportion of EU member states that are classified as 'friends of fish'. Accordingly, 'Friends of Fishing' is the proportion of EU member states that are classified as 'friends of fishing'.

'Agricultural heterogeneity' is the standard deviation over all countries of the agricultural value added as percentage of each country's GDP.

Institutional Changes

Four treaties have amended the Treaty of Rome which founded the European Community in 1957: the Single European Act (SEA), the Treaty of the European Union (TEU), the Treaty of Amsterdam and the Treaty of Nice. These treaty changes enact institutional reforms, such as expansions of qualified majority voting and the introduction and extension of the Co-decision procedure. While the extension of qualified majority voting should advance the production of legislation, additional power for the European Parliament should lead to a reduction of legislative output. Over the past decades, the EP has evolved from a mere spectator to a powerful institution shaping the legislative decisions made within the Union. According to Selck (2006) the European Parliament tends to hold extreme preferences. Golub (2007: 158) deduces that "its formal involvement should increase heterogeneity and produce the same sort of effect as adding an outlier member state". The EP's influence within the EU decision-making process has increased from the Consultation Procedure, the Cooperation Procedure introduced by the SEA, to the Codecision Procedure designed by the TEU and amended by the Treaty of Amsterdam. In order to account for such institutional developments we include dummy variables for the different institutional periods that we call 'PostSEA', 'PostTEU', 'PostAMS', and 'PostNICE'. The four dummy variables are coded 'one' for those months in which the different treaties are in force. For instance, the SEA came into force on the 1st of July 1987. For every month from July 1987 to October 1993 – the Treaty on the European Union (TEU) came into force in November 1993 – the variable 'PostSEA' is therefore coded 'one', for all other months 'zero'.

Anticipation

We include anticipation dummies which score 'one' in the month preceding a specific enlargement round and 'zero' for all other months (cf. Leuffen and Hertz 2007). The variables, therefore, capture an increase in legislative output immediately before new member states enter the club. The five anticipation dummies, one for each enlargement round, are labeled: 'Ant1981', 'Ant1986', 'Ant1995', 'Ant2004', and 'Ant2007'.

Delors

Jacques Delors' commission presidency is known for its dynamism and its ambition in establishing the single market. In order to account for this rise of legislative activity around the Single Market program (cf. Hix 2008: 46) we include a dummy variable that scores 'one' for the month in which Jacques Delors held the commission presidency.

Time

Our dataset covers a time span of over 30 years. Within these three decades the Union has changed in many ways. Sectoral integration has expanded the responsibilities of the Union, leading to more legislative output (e.g. Fligstein and Stone Sweet 2002; Börzel 2005). The SEA, for instance, extended the Community competencies in the fields of environmental policy, economic and social cohesion, and social policy (Dinan 2005: 3). Time thus captures integration developments as long term trends in form of a continuous variable ranging from 1 in January 1976 to 393 in September 2008.

Monthly Dummy Variables

In addition to the variables introduced above, we account for monthly fluctuations within our dependent variable by monthly dummy variables. For instance, EU legislative output is generally higher at the end of Council Presidency terms. The Council Presidency chairs the Council meetings and rotates amongst the member states, one term lasting six months from January to June and from July to December. The monthly dummy variables accordingly account for higher output in June and December. Another example is the month of August, a month marked by an extremely low amount of legislative activity, due to the summer holidays in the European institutions.

RESULTS AND DISCUSSION

Our baseline model for total legislative output consists of the 'Commission Submission' variable, the 'Time' variable, the monthly dummy variables (not reported in table 1), as well as the treaty and anticipation variables (cf. table 1). As expected, the more proposals the Commission issues, the more acts are passed (lagging this variable does not substantively change our results). Time, too, is positive and statistically significant. Most institutional variables are negative and significant, a result that might point towards a growing veto capacity of the European Parliament. There is strong positive support for the anticipation variables.

	model1	model2	model3	model4	model5
ComSubmission	0.01***	0.01***	0.01***	0.01***	0.01***
	(0)	(0)	(0)	(0)	(0)
Time	0.00***	0.01***	0.00***	0.00***	0.00**
	(0)	(0)	(0)	(0)	(0)
PostSEA	-0.04	-0.07	-0.14	-0.04	-0.19
	(-0.11)	(-0.11)	(-0.12)	(-0.11)	(-0.14)
PostTEU	-0.58***	-0.62***	-0.55***	-0.58***	-0.60***
	(-0.16)	(-0.16)	(-0.16)	(-0.16)	(-0.19)
PostAMS	-0.74***	-0.81***	-0.67***	-0.75***	-0.69***
	(-0.2)	(-0.2)	(-0.21)	(-0.2)	(-0.25)
PostNICE	-1.03***	-0.97***	-0.81***	-1.03***	-0.76**
	(-0.24)	(-0.24)	(-0.25)	(-0.24)	(-0.3)
ANT1981	0.76***	0.75***	0.79***	0.75***	0.86***
	(-0.09)	(-0.09)	(-0.09)	(-0.09)	(-0.11)
ANT1986	0.36***	0.34***	0.26**	0.36***	0.48***
	(-0.12)	(-0.12)	(-0.12)	(-0.12)	(-0.13)
ANT1995	0.37***	0.34***	0.24**	0.36***	0.34***
	(-0.11)	(-0.11)	(-0.12)	(-0.11)	(-0.13)
ANT2004	1.46***	1.30***	1.33***	1.44***	1.31***
	(-0.12)	(-0.13)	(-0.13)	(-0.13)	(-0.13)
ANT2007	0.01	0.04	0.05	0.01	0.06
	(-0.09)	(-0.09)	(-0.09)	(-0.09)	(-0.11)
Members		-0.02**	-0.02*		
		(-0.01)	(-0.01)		
Delors			0.16**		
			(-0.08)		
PassageProbabilityQMV				0	
				(-0.02)	
PPeu10					0.07
					(-0.14)
PPeu12					0.27*
					(-0.15)
PPeu15					-0.07
					(-0.11)
PPeu25preNice					-0.29
					(-0.28)
PPeu25postNice					0.11
					(-0.28)
PPeu27					-0.07
					(-0.13)
_cons	2.07***	2.23***	2.23***	2.00***	2.08***
	(-0.11)	(-0.14)	(-0.14)	(-0.38)	(-0.11)
AIC	7.780	7.777	7.771	7.785	7.783
BIC	805.021	807.849	809.712	810.962	830.201
N	393	393	393	393	393

* p<0.1, ** p<0.05, *** p<0.01

Standard errors in parenthesis. All models contain monthly dummy variables.

Table 1: Negative Binomial Regression Models on Total Legislative Output

In model 2, we add 'Members' and this variable is negative and significant. As predicted by veto player theory, a growing number of member states seem to induce a reduction of legislative output. Per member state we estimate a reduction of about 2.1 per cent, holding all other variables constant. This result holds if we exclude the anticipation variables, and but 'Members' misses the 5 per cent significance level, when we control for both, Jacques Delors' Commission presidency and the anticipation variables. In addition, the result is strongly driven by the 'Time' variable. If this variable is excluded, 'Members' turns insignificant and positive. The results for the continuous passage probability as well as for the dummy passage probability variables are poor (models 4 and 5). There is no evidence that the passage probabilities influence the total production of legislation in the EU.

The models estimated on the total amount of legislation give some support for veto player theory but, again, the results lack robustness. There is no support for the passage probabilities based on a-priori voting power theory. We thus find only little support for the number of member states variable and the passage probability approach on this account should be refuted.

When only estimating the models on directives and regulations the results are similar; again 'Members' is significant and the passage probability variables still perform poorly (cf. table 2). Only when the continuous passage probability variable is tested on directives, is this variable positive and significant (result not presented in the table). In addition, for directives, the dummy variable for the EU25 before the Nice Treaty voting rules entered into force is negative and strongly significant. In the first months after Eastern enlargement, we observe a strong reduction of legislation. With the Nice Treaty voting rules this effect is reversed and there is a positive effect. But again these results depend on the 'Time' variable. The amount of decisions seems to rise over time, a development that might dilute effects on the level of total output. While we again find some support for hypothesis 2 with our 'Members' variable based on veto player theory, the models containing the passage probabilities perform less well.

So far, we have not included variables for heterogeneity into our models. The reason is that most variables do not seem fit to capture effects on total EU legislative production. We therefore now turn to two policy areas: the Common Fishery Policy and the Common Agricultural Policy.

For the CFP we find some evidence that heterogeneity impacts on legislative output (table 3). Our first model just consists of a variable measuring the fisheries proposals issued by the Commission in the same month (again lagging this variable does not substantively change the picture), the 'Time' variable, the monthly dummies and 'Members'. 'Members' is negative and significant. An additional member state leads to a reduction of fisheries legislation of about 4.7 per cent, holding all other variables constant. This result however depends on the inclusion of the time variable and the exclusion of the Treaty variables. A theoretical reason for excluding the Treaty variables is that they should not affect the CFP since this policy area is widely unaffected by the treaty changes since consultation is still the rule in this policy area and voting, at least formally, follows QMV. If we include 'Fishery_Heterogeneity_PerGDP' instead of members, this variable is also significant. The greater the heterogeneity of member states, the less acts are passed. If we include the two variables together into one model, both turn insignificant. If we, however, instead add the number of friends of fishing variable, members is no longer significant, but this heterogeneity measure is significant with the expected sign. The more friends of fishing there are in the EU, the more CFP legislation is passed. This variable stays significant even without the 'members' variable. It also is not driven by 'Time'.

	model1	model2	model3	model4	model5
ComSubmission_REG_DIR	0.01***	0.01***	0.01***	0.01***	0.01***
	(0)	(0)	(0)	(0)	(0)
Time	0.00***	0.01***	0.00***	0.00***	0
	(0)	(0)	(0)	(0)	(0)
PostSEA	-0.02	-0.06	-0.17	-0.02	-0.17
	(-0.13)	(-0.13)	(-0.14)	(-0.13)	(-0.16)
PostTEU	-0.61***	-0.66***	-0.57***	-0.61***	-0.54**
	(-0.18)	(-0.18)	(-0.18)	(-0.18)	(-0.22)
PostAMS	-0.92***	-1.02***	-0.83***	-0.94***	-0.75***
	(-0.23)	(-0.23)	(-0.24)	(-0.23)	(-0.28)
PostNICE	-1.19***	-1.08***	-0.87***	-1.18***	-0.69**
	(-0.28)	(-0.29)	(-0.29)	(-0.28)	(-0.34)
ANT1981	0.78***	0.77***	0.83***	0.77***	0.94***
	(-0.1)	(-0.1)	(-0.1)	(-0.1)	(-0.12)
ANT1986	0.35**	0.31*	0.22	0.32*	0.49***
	(-0.16)	(-0.16)	(-0.16)	(-0.17)	(-0.17)
ANT1995	0.31**	0.26**	0.14	0.29**	0.23
	(-0.13)	(-0.13)	(-0.13)	(-0.13)	(-0.15)
ANT2004	1.66***	1.43***	1.46***	1.62***	1.44***
	(-0.12)	(-0.16)	(-0.16)	(-0.16)	(-0.16)
ANT2007	0.23**	0.28***	0.30***	0.23**	0.32**
	(-0.1)	(-0.11)	(-0.1)	(-0.1)	(-0.12)
Members		-0.03**	-0.03*		
		(-0.01)	(-0.02)		
Delors			0.22**		
			(-0.09)		
PassageProbabilityQMV				0.01	
				(-0.03)	
PPeu10					0.15
					(-0.16)
PPeu12					0.31*
					(-0.17)
PPeu15					-0.14
					(-0.13)
PPeu25preNice					-0.5
					(-0.31)
PPeu25postNice					0.24
					(-0.3)
PPeu27					-0.05
					(-0.17)
_cons	1.83***	2.07***	2.07***	1.64***	1.84***
	(-0.12)	(-0.17)	(-0.17)	(-0.47)	(-0.12)
AIC	7.279	7.271	7.260	7.283	7.271
BIC	608.164	609.188	608.855	613.915	629.182
N	393	393	393	393	393

* p<0.1, ** p<0.05, *** p<0.01

Standard errors in parenthesis. All models contain monthly dummy variables.

Table 2: Negative Binomial Regression Models on Directives and Regulations

On the other hand, if we add the 'number of friends of fish' variable, both 'members' and this new variable are negative and significant. This might underline that the friends of fish are in a position to stop fisheries legislation to be passed. This result, however, depends on the inclusion of the 'Time' variable.

If we include the variable 'FriendsofFishing' we find a positive relation which is highly significant. Since this variable already contains information on the number of members (it measures the proportion of friends of fishing to the total amount of members), we do not need to include 'Members'. Even if we include the institutional variables the result for 'FriendsofFishing' is robust. 'Time', too, does not make a difference. For 'FriendsofFish' we do not, however, get as sound a result.

In model 5, we finally display the result for the passage probability. The results for the dummy specification of this variable again are similarly poor. For fisheries, it can accordingly be stated, that it is not so much the number of actors that matter but rather their type. In contrast to the prediction of veto player theory there can be an increase of legislative output going along with an increase of those members that are 'friends of fishing'.

	model1	**model2**	**model3**	**model4**	**model5**
ComSubmission_Fisheries	0.09***	0.09***	0.07***	0.09***	0.09***
	(-0.01)	(-0.01)	(-0.01)	(-0.01)	(-0.01)
Time	0.00***	0.00**	0		0.00*
	(0)	(0)	(0)		(0)
Members	-0.05***		-0.03		
	(-0.02)		(-0.02)		
Fishery_Heterogeneity_PerGDP		-1.21e+05**			
		(-53542.6)			
NumFriendsofFishing			0.27***		
			(-0.08)		
FriendsofFishing				1.41***	
				(-0.53)	
PassageProbabilityQMV					0.01
					(-0.04)
_cons	0.34	0.64*	-0.78	-0.15	-0.08
	(-0.28)	(-0.37)	(-0.52)	(-0.29)	(-0.63)
AIC	3.893	3.898	3.861	3.939	3.912
BIC	-754.150	-752.151	-762.844	-740.097	-746.627
N	393	393	393	393	393

* p<0.1, ** p<0.05, *** p<0.01
Standard errors in parenthesis. All models contain monthly dummy variables.

Table 3: Negative Binomial Regression Models on CFP Legislation

As to the CAP, we also exclude the Treaty variables for the same reasons outlined above for fisheries. When only including the Commission proposal activity and the monthly dummy variables, 'Members' is negative and strongly significant. Adding the 'Time' variable does not change this result. When replacing our 'Members' variable in model 2 with dummies for the different group size periods, we notice that there is a significant reduction of legislative output after the Northern enlargement of

1995 and after Eastern enlargement in 2004. Adding our heterogeneity variable does not substantively change the effects on the group size, but the heterogeneity variable unexpectedly has a positive coefficient. This is the case together with 'Members', the 'EC' variables and without these variables. Therefore the standard deviation over countries of agricultural value-added as percentage of GDP does not seem to be a good measure for heterogeneity.

	model1	**model2**	**model3**	**model4**	**model5**
ComSubmission_Agriculture_DG	0.02***	0.01***	0.02***	0.02***	0.01***
	(0)	(0)	(0)	(0)	(0)
Members	-0.07***		-0.05***		
	(-0.01)		(-0.02)		
EC10_t		0.2			
		(-0.17)			
EC12_t		0.28*			
		(-0.16)			
EC15_t		-0.87***			
		(-0.12)			
EC25_t		-0.60**			
		(-0.24)			
EC27_t		0.05			
		(-0.34)			
Agriculture_Heterogeneity			0.17***		
			(-0.06)		
PassageProbabilityQMV				0.07***	
				(-0.02)	
PPeu10_only					0.2
					(-0.17)
PPeu12_only					0.48***
					(-0.13)
PPeu15_only					-0.39***
					(-0.13)
PPeu25preNice_only					-1.22
					(-0.91)
PPeu25postNice_only					-0.96***
					(-0.25)
PPeu27_only					-0.94***
					(-0.27)
_cons	2.01***	1.05***	1.22***	0.27	1.05***
	(-0.25)	(-0.18)	(-0.39)	(-0.24)	(-0.18)
AIC	5.788	5.706	5.773	5.838	5.710
BIC	-13.579	-29.792	-15.259	6.422	-24.037
N	393	393	393	393	393

* p<0.1, ** p<0.05, *** p<0.01
Standard errors in parenthesis. All models contain monthly dummy variables.

Table 4: Negative Binomial Regression Models on CAP Legislation

The results for the passage probability are comparatively strong for agricultural legislation. A higher passage probability leads to more agricultural acts passed by the EU. The passage probability dummy variables show that while there is an increase of legislation when moving from the Passage Probability of the EC1o to the EC12 (despite the theoretical expectation, that it should shrink), there

is, indeed, a reduction of legislation going along with the EC15, the EC25 post-Nice (despite the different expectation) and the EC27. These results suggest that the CAP models might still be too underspecified and/or that the passage probability might not be a good measure to assess empirical developments of legislative output. We have tried to include dummies for specific CAP-related events such as the introduction of milk quotas in 1984, the conclusion of the Delors-I, the Delors-II and the Agenda 2000 packages, as well as the MacSharry reform of 1992. This, however, has not led to more conclusive results.

As to the policy area hypothesis, we present some confirming evidence for a reduction of legislative output in the fields of the CFP and the CAP. When only studying the group size or the passage probabilities (for agriculture) we find a reduction of legislation. However, in the case of fisheries the heterogeneity variables underline that the type of actors matter more than group size. In general, we get more support for the veto player based variables than for the passage probabilities. This might be due to the fact, that in the EU a majority of decisions is still decided consensually and cooperative behavior cannot be not sufficiently accounted for by a-priori voting power theory. In addition, the randomness of preferences attached to the different actors might not be in line with the actual situation in the EU (cf. Selck 2006). It should, however, be noted that since a-priori voting power theory has a strong normative background and objective, these results should not discredit the value of this approach altogether.

CONCLUSION

In this article, we address the effects of enlargement for EU legislative policy-making. We focus on a quantitative dimension by studying monthly legislative output from 1976 to 2008. In the theoretical part, we first distinguish two prominent theories of group size and political decision-making, namely a-priori voting power and veto player theory. Both theories hypothesize a reduction of legislative output going along with an increase of group-size (when holding the decision-making rules constant). However, they build on different concepts and accentuate different mechanisms. These mechanisms are tested by using different variables in negative binomial regression models estimated on EU legislative output. While we find some support for veto player theory, support for passage probabilities expectations based on a-priori voting power theory is rare. Since the heterogeneity aspect of veto player theory cannot satisfactorily be tested on total legislative output, we disaggregate the data and run count models on the production of acts in CFP and CAP. For CFP we find that heterogeneity matters strongly, in particular the proportion of so-called 'friends of fishing' has a positive impact on the production of fisheries legislation. For agriculture our heterogeneity variable performed rather poorly. In addition, we tested our group-size models on regulations and directives as we expected to find stronger effects on these more important legislative acts. This can be confirmed and, in fact, for decisions there is an increase over time which seems to partly water down the effects of group-size on total legislative output.

Our findings show that the reduction of legislative output has been smaller than expected by parts of the literature. While we find some reduction since the mid-1990s the effects are not too worrisome especially since there might also be saturation effects, given the amount of legislation already passed in the EU.

Future research should cover more policy-areas and should develop more fine-tuned models of policy-making in these areas. Here collaboration with policy experts would be desirable. Another step would be to stronger distinguish types of legislation as, for instance, Mayhew (1991) did with his concept of landmark pieces of legislation. The question behind this would be whether enlargements lead to difficulties in passing important pieces of legislation. This would be another step towards a better understanding of qualitative effects of EU enlargements.

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