

## *Business as Usual? Analyzing the Effects of Enlargement on EU Legislative Output*

Robin Hertz  
ETH Zurich  
Weinbergstrasse 11  
WEC C 13  
Robin.Hertz@eup.gess.ethz.ch

Dr. Dirk Leuffen  
ETH Zurich  
Weinbergstrasse 11  
WEC C 14  
Dirk.Leuffen@eup.gess.ethz.ch

ISSN 1662-7504



Universität Zürich

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

# **Business as Usual? Analyzing the Effects of Enlargement on EU Legislative Output<sup>□</sup>**

Robin Hertz  
ETH Zurich  
Weinbergstrasse 11  
WEC C 13  
Robin.Hertz@eup.gess.ethz.ch

Dr. Dirk Leuffen  
ETH Zurich  
Weinbergstrasse 11  
WEC C 14  
Dirk.Leuffen@eup.gess.ethz.ch

## **Abstract**

This paper analyzes the effects of enlargement on European Union (EU) legislative output. Building on veto player theory we use computer simulations to derive hypotheses about group size, heterogeneity and law production. We test this theory by estimating negative binomial regression models on a dataset covering the legislative process for all binding secondary EU legislation from 1976 to 2007. Our analysis does not corroborate all of veto player theory's expectations. No significant reduction of legislation goes along with an increase in the number of member states. In the outlook we discuss these findings and generate a set of possible explanations for our unexpected results.

---

<sup>□</sup> Thanks go to Marjorie Buchser, Daniel Finke, Patrick Kuhn, Berthold Rittberger, Gabrielle Ruoff, Thomas Sattler, Nils Weidmann, Jonas Wolf and the members of ETH European Politics Research Group.

## **Introduction**

Eastern enlargement is a major step in recent European integration. Starting from a Community of six the European Union (EU) now consists of 27 member states with almost 500 million citizens. While this is a success story in many respects, a lot of questions are asked today about the effects of enlargement for EU governance. Has enlargement transformed the nature of the beast? And how does it affect decision-making? In this article, we analyze the consequences of enlargement on EU legislative output. We conceptualize enlargement as an increase in group size. Group size is an important variable for the analysis of decision making. 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). Our analysis builds on veto player theory (Tsebelis 2002) as a recent contribution to the study of group size.

Using computer simulations we first derive a set of predictions on the relation between group size, heterogeneity and policy stability for the case of the EU. The simulations explicitly show that group size has a marginally diminishing negative effect on legislative output. Adding members makes stronger differences for smaller groups. Furthermore the simulations underline that a change in group size matters most when linked to an increase of group heterogeneity. While perfectly in line with the basic ideas of veto-player theory our simulations allow a more nuanced formulation of predictions for different group size and heterogeneity scenarios for the case of the EU. We test these theoretical predictions on a new data-set covering EU lawmaking from 1976 to 2007.

Negative binomial regression models gauge the effects of an increase of member states on EU legislative output.

Our results are reassuring in that they – partly opposing veto player theory’s predictions – point towards a ‘business as usual’ reading of post-enlargement governance. An increase of group size does not significantly reduce legislative output. While we were able to distinguish group size and heterogeneity in the theoretical setup this turns out to be more problematic in the empirical analysis since an increase of group size generally brings along more heterogeneity between the member states. While we do not detect persisting gridlocks we present some evidence for short-term enlargement effects on EU lawmaking. In particular, old member states’ anticipatory behavior leads to short-term rises and declines of legislative output. But in the long-run the ‘natural flow’ of legislation is restored. While our analysis is amongst the first to systematically gauge the effects of enlargement for decision-making it only focuses on quantitative legislative output. Future research should therefore address possible qualitative effects of EU enlargement.

### **Actors, Heterogeneity and Policy Stability: Simulating the Effects of EU-Enlargement**

For many observers enlargement greatly transforms the nature of EU politics (cf. for instance Zielonka 2006). It is commonly assumed that adding new member states makes decision-making more problematic. In particular, enlargement should have negative effects for legislative output. On the theoretical front, two approaches can be

distinguished:<sup>1</sup> a veto-player related approach (Dobbins et al., 2004; König and Bräuninger, 2004; Tsebelis and Yatanagas, 2002) and an a priori voting power approach (Baldwin et al., 2000; Baldwin and Widgrén, 2003, 2004, 2005; Bilbao et al., 2002; Felsenthal and Machover, 2004; Johnston, 1995). The a-priori voting power literature is based on the calculation of all possible coalitions and the fraction of coalitions within the Council that reach a qualified majority. While the veto-player approach combines preferences and institutions to predict outcomes, the a-priori voting power approach focuses on institutions. The simplifying assumptions and the validity of both approaches have widely been debated (Albert, 2003; Felsenthal et al., 2003; Garrett and Tsebelis, 1999; Garrett and Tsebelis, 2001; Hörl et al., 2005; Lane and Berg, 1999). Especially the neglect of actors' preferences in the a-priori voting power approach has often been criticized (Pajala and Widgrén, 2004; Steunenberg et al., 1999). Although the focus of these two approaches is different, their predictions point into the same direction: enlargement is generally said to have a strong impact on the EU's decision-making capacity (Kerremans, 1998). 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) agree 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.

In its simplicity, veto player theory can be considered a compelling contribution to the debate about the effects of group size on decision-making. The dependent variable policy stability measures system production in terms of a departure from the legislative status quo. Two components determine policy stability: the size of the winset of the status

---

<sup>1</sup> We here concentrate on rationalist approaches. Most constructivist contributions to this question line up with the rationalist expectations; however, they stress different mechanisms (cf. Leuffen 2006).

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. Adding new veto players thus either increases policy stability or – if the new players are absorbed – leaves it the same. Computer simulations enable us to formulate predictions about how different group size and heterogeneity scenarios affect policy stability in the European Union.

### ***Set-up of the Game and Hypotheses***

According to veto player theory the actor constellation determines policy stability. For our purpose, two variables are decisive: the number of veto players and their preferences (on an aggregate level the preferences form the group's heterogeneity). The following simulations closely build on Steunenberg (2002) who – by the way – predicts that “under qualified majority voting, enlargement will not affect the Union's ability to take new decisions” (Steunenberg, 2002: 112). Our simulations however are more nuanced – 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). Completely informed actors – the member states in the Council – have Euclidian preferences in a one-dimensional policy-space that ranges from 0 to 100.<sup>2</sup> 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. In our

---

<sup>2</sup> For reasons of simplicity we – in contrast with, for instance, Crombez (1996) – do not incorporate the European Parliament in our model.

empirical analysis we will concentrate on the 1981 Greek enlargement, the 1986 Southern enlargement, the 1995 Northern enlargement and the 2004 Eastern enlargement. As to heterogeneity – according to veto player theory more divergent preferences increase policy stability – we enact a range of scenarios that differently distribute the actors in the policy space. In particular, we vary the standard deviation of the normal distribution by which the actors are randomly placed on our policy dimension. For each EU group size heterogeneity grows from a value of 0 to 50. For instance, for a low degree of heterogeneity of 10, the actors are randomly placed within the policy space according to the normal distribution with mean 50 and standard deviation 10. As the standard deviation of the distribution increases, the actors are more widely dispersed around the mean.

Once the actors' ideal points are defined a reversion point is drawn from a uniform distribution. Refraining from modeling a rational “agenda setter”, we assume that the Commission makes a random proposal – also drawn from a uniform distribution. Opting for the uniform distribution in the case of the reversion point and the Commission's proposal ensures that the average distance between the proposal and the reversion point is equal across different levels of heterogeneity. If the reversion point and the Commission's proposal were drawn from the same normal distribution as the members' ideal points, this would imply that on average the Commission opts for a greater policy change whenever the members are more heterogeneously distributed. It would be impossible to say whether a reduction in the adoption rate is due to increased heterogeneity or the Commission's greater preference for change.

For each number of members and degree of heterogeneity constellation we distinguish two decision-making rules: unanimity and qualified majority voting. The qualified majorities are modeled according to the rules that were historically used in the EU. We then assess 100,000 different policy situations for each constellation with 1000 different random seeds, i.e. 100 policy situations per random seed. Taking the averages over these 100,000 policy situations per variable constellation produces the data illustrated in Figure 1. The average adoption rates decrease from a proportion of .5 to about .01 in the worst scenario of an EU 27 with heterogeneity of 50 in a unanimity world. As expected, the adoption rates for QMV lie well above those of the unanimity rule, for less members well above those for more members and for a lower degree of heterogeneity well above those for a higher degree of heterogeneity.

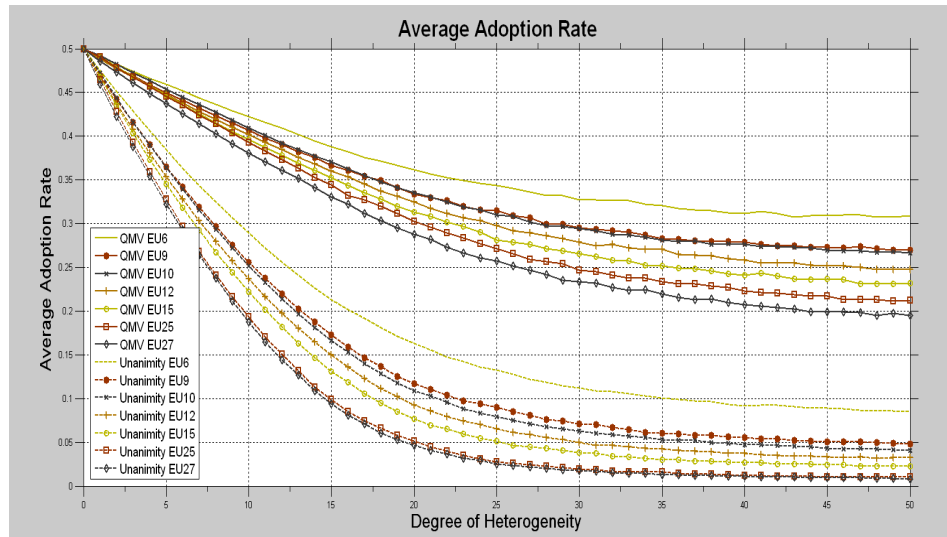


Figure 1: Simulations of average adoption rates over group size and heterogeneity

The simulations produce explicit hypotheses on how an increase in group size and/or a growing heterogeneity impacts on policy stability in our simple game. For instance – assuming a fixed degree of heterogeneity of 20 – a change in group size from six to nine members reduces the amount of legislation passed by approximately five per



cent. Empirically, the changes in EU group size are simply the enlargement rounds. But how does heterogeneity change in the EU? While the general importance of preference heterogeneity for decision-making is widely accepted in the literature (cf. Zimmer et al. 2005; König and Bräuninger 2001; König and Bräuninger 2004: 425; Dahl 1999; Drazen 2002) there is less agreement on how to operationalize the concept. We implement a measure based on GDP, namely the standard deviation of GDP per capita for all EU member states.<sup>3</sup> Far from perfect, this measure varies over time and is the most general economic indicator informing about the wealth of different EU member states. Given its general character – GDP depends on economic development and structures and possibly also informs about budgetary positions of the member states – this measure seems particularly well suited to inform about heterogeneity across different policy areas. Referring to Baldwin et al. (1997) and Kandogan (2000), König and Bräuninger (2004: 425) note that the expected dissimilarity between old and new member states in the case of Eastern Enlargement was based on the fact that Eastern Enlargement increased the population of the EU by 30% and GDP by only 4%. König and Bräuninger (2004) go on to analyze the impact of Eastern Enlargement in the Agricultural sector by using GDP per capita, i.e. wealth, as one indicator for future policy positions. Bauer and Zimmermann (1999) illustrate the importance of GDP per capita for another issue area affected by enlargement: migration. Taking into account the importance of the GDP measure for various policy fields, we believe the variance in GDP per capita to be a plausible estimate for group heterogeneity in the case of our aggregated analysis.<sup>4</sup>

---

<sup>3</sup> Data for this variable is obtained from UNdata (<http://data.un.org/Data.aspx?q=GDP&d=CDB&f=srID:29922>).

<sup>4</sup> Here, we make the assumption that the greater the variance in GDP per capita, the greater the variance in policy positions held at the European level. König and Bräuninger (2004) use a simple Tax Payers Model

Figure 2 illustrates how the standard deviation of GDP per capita of the member states – rescaled to a mean of 50 – has evolved over the past 30 years. While the Greek enlargement displays no effect on our heterogeneity measure, the Southern enlargement increases the degree of heterogeneity. The accession of Sweden, Finland, and Austria again leads to greater homogeneity. Finally, Eastern enlargement shows the strongest positive effect on the degree of heterogeneity.

Since the values in Figure 2 are rescaled to a mean of 50 we can plug them into our simulations of Figure 1. Assuming a normal distribution of GDP per capita across the member states, this allows us to formulate predictions about the changes in legislative output that we expect to observe after the different EU enlargement rounds. We distinguish a QMV and a unanimity scenario. For instance, in our simulations we do not expect a strong effect for Greek enlargement. Since the degree of heterogeneity is stable and just one additional member state is included this – in a QMV scenario – adds up to an expected reduction of just .2 per cent. In the unanimity scenario we expect a reduction of .6 per cent.

---

to derive hypotheses linking a macroeconomic indicator to ideal policy positions. In this model, a greater variance in the macro-level indicator leads to a greater variance in the ideal policy positions – supporting the assumption made here.

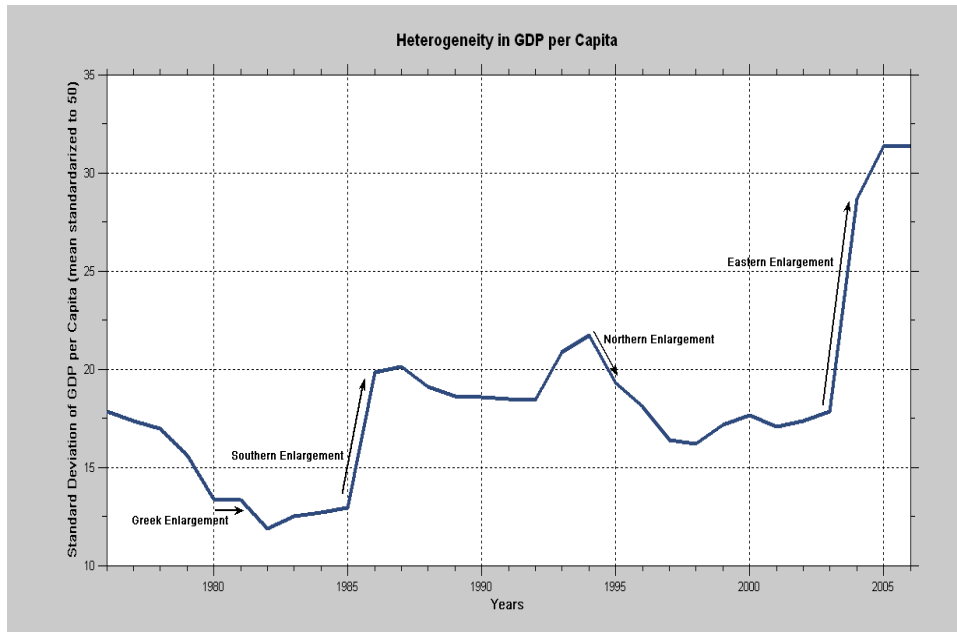


Figure 2: Standard deviation of GDP per capita over EU members

Table 1 displays our predictions for the different enlargement rounds from the Greek to the first Eastern enlargement. While we expect a clear reduction of legislative acts following Southern and Eastern enlargement, we even predict an – albeit weak – positive impact of Northern enlargement. Here the reduction of heterogeneity outweighs the negative effects of an increase in group size.



Group size effects are always stronger in the case of unanimity when compared to QMV. With the exception of Eastern enlargement this also holds for the impact of heterogeneity. Taking into account the levels of the adoption rates before Eastern Enlargement in the case of QMV (.30) and unanimity (.06), the relative impact of the increase in heterogeneity here, too, is larger under the unanimity rule.

In order to formulate predictions on the total outcomes we estimate the percentage of acts adopted under QMV and unanimity for the different periods. We retrieve this information from the dataset provided by König et al. (2006) that covers the period 1983 until 2003 and therefore unfortunately falls short of the post Nice period (for which we therefore implement a linear prediction). In this dataset 71 per cent of the legislation preceding the Single European Act is passed under QMV. QMV legislation rises to 76 per cent after the SEA comes into force. Then, surprisingly, QMV legislation drops to 60 per cent after the Maastricht treaty enters into force to then reach a low of 48 per cent, following the Amsterdam Treaty implementation. Extrapolating this negative trend we expect 42 per cent of QMV legislation after the Nice treaty. We can now estimate weighted averages of the QMV and unanimity predictions. The weighted averages are also displayed in Table 1 and predict the change in the number of acts adopted following different enlargement rounds. We expect the strongest effects for Southern and Eastern enlargement. After Southern enlargement legislative output should fall by 7.8 per cent. After Eastern enlargement we predict a decline of 4.8 per cent.

## **Empirical Analysis**

### ***Research Design: Data and Methods***

In order to test our theoretical predictions we use a new dataset covering the legislative process of all binding acts adopted by the Council of Ministers between January 1976 and December 2006.<sup>5</sup> The unit of analysis is monthly legislative output. The dependent variable is number of decisions, regulations, and directives adopted by the Council of Ministers per month. It reaches its peak with 164 acts adopted in December 1985 prior to Southern Enlargement and its minimum in various August months when European politicians take their summer vacation. Our sample contains 372 monthly observations with 12,899 adopted acts.<sup>6</sup>

Since the dependent variable counts legislative output, ordinary least squares estimates can be inefficient, inconsistent, and biased (King 1988; Long 1997). We therefore use maximum likelihood based 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).

The time-span of our analysis includes four enlargement rounds. Our core independent variables are group size and heterogeneity. Group size is enacted with dummies for the different EU sizes as well as with a ‘members’ variable ranging from 9

---

<sup>5</sup> The data was retrieved by deparsing the information from PreLex.

<sup>6</sup> Our dataset is similar to the data presented by König et al. (2006). Whereas this dataset has the merit of combining information from PreLex and CELEX it neither covers the Greek accession of 1981 nor the two Eastern enlargement rounds in 2004 and 2007. König et al.’s (2006) dataset includes 2073 decisions, 5358 regulations, and 1044 directives adopted from January 1984 to January 2003. For the same period our dataset includes 2557 Decisions, 5642 Regulations, and 1017 Directives. Our dataset therefore contains an extra 741 legislative acts. These probably correspond to legislative acts dropped by König et al. (2006) when merging the CELEX and the PreLex datasets.

to 25. In line with our theoretical models, heterogeneity is measured as the standard deviation of GDP per capita of the EU member states over time.

Table 2  
Variables

	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Standard Deviation</i>
<b>Dependent Variable</b>				
Acts Adopted by the Council	0	164	34.67	29.48
<b>Veto Player Factors</b>				
EC10	0	1	0.16	0.37
EC12	0	1	0.29	0.45
EC15	0	1	0.30	0.46
EC25	0	1	0.09	0.28
Number of Members	9	25	13.22	4.23
Heterogeneity	2164.28	18401.09	6995.39	4275.62
<b>Institutional Factors</b>				
SEA in force	0	1	0.20	0.40
TEU in force	0	1	0.18	0.38
Amsterdam Treaty in force	0	1	0.12	0.33
Nice Treaty in force	0	1	0.13	0.33
<b>Behavioral Factors</b>				
Acts Submitted by the Commission	0	134	34.49	21.64
Delors	0	1	0.33	0.47
ANT1981	0	1	0.003	0.052
ANT1986	0	1	0.003	0.052
ANT1995	0	1	0.003	0.052
ANT2004	0	1	0.003	0.052
ANT2007	0	1	0.003	0.052

Table 2: Descriptive statistics

We control for the institutional setting by including dummy variables for different treaty changes since the 1970s. These score one whenever a treaty change comes into action and is not yet superseded by another treaty. We expect these variables to have a positive effect if the extension of QMV to new policy sectors as well as widening the

scope of integration to different policy fields outweighs the strengthening of new veto players like the European Parliament.

Since output demands input we include a variable that counts the number of Commission proposals submitted to the Council each month. This variable is lagged by four months, the median time it takes to pass EU legislation. It is expected to have a positive effect. Further behavioral variables capture the effect of old members foreseeing a future enlargement event and adapting their behavior accordingly. Forward looking member states have incentives to increase legislative activity before newcomers enter the club. We therefore expect legislative output to rise in the month preceding the accession of new member states. This is captured by a dummy for every month preceding an enlargement. The logic of this anticipation variable is discussed in more detail in Hertz and Leuffen (2007) and rests on the rationality of the actors involved.<sup>7</sup> To account for the historical boost of legislation of the single market program a ‘Delors’ variable captures Jacques Delors’ Commission Presidency. Table 2 contains information on the descriptive statistics.

In order to take longer time trends into account lagged dependent variables are included in the models. They capture the effects of additional variables not covered in our analysis. In addition, lagged dependent variables reduce autocorrelation. The lagged variables are expected to positively affect legislative output.

---

<sup>7</sup> In Hertz and Leuffen (2007) we, amongst other things, exclude acts that prepare enlargement so that we can be sure to capture effects on ‘normal’ legislative production.



## Findings

Figure 3 plots the number of acts adopted per month from 1976 to 2006 as well as the averages for each number of member states. We observe some pronounced monthly variations. Some of the highest peaks fall into the month preceding the accession of new member states. We see a rise in legislative output up until the early 1990s and a drop thereafter. While on average legislative production increased after the first two enlargement rounds in 1981 and 1986, it decreased after all subsequent enlargements. In the EU15 on average 35.8 legislative acts were adopted per month. For the EU25, the mean drops to 32.6 acts adopted per month. This reduction of around 9 per cent is not statistically significant ( $z$ -value of 0.745).

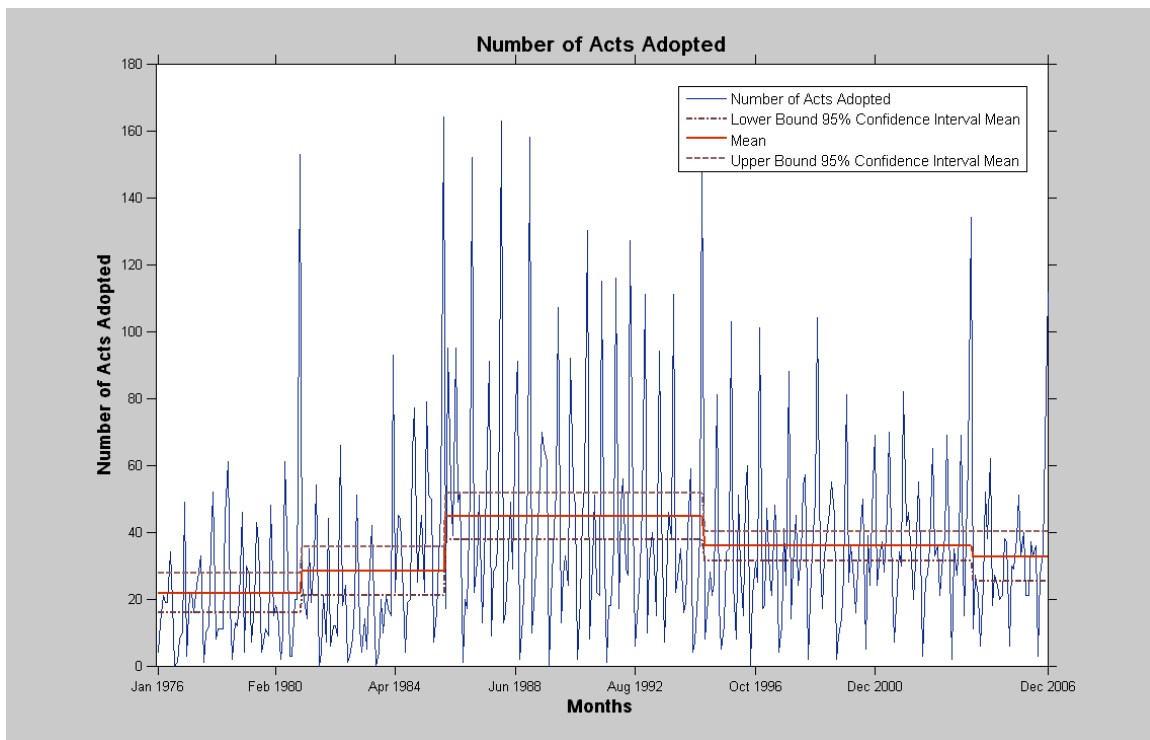


Figure 3: Acts Adopted per Month

Our multivariate analysis supports this finding. Group-size does not seem to have a statistically significant impact on the quantity of legislative output. Our baseline model

– model 1 – contains the Commission submission variable, the Delors dummy, the four variables accounting for treaty reforms, the anticipation variables as well as yearly dummies. A higher number of acts submitted by the Commission leads to a higher number of acts adopted by the Council. While ‘Delors’, as well as the Amsterdam Treaty and the Treaty of Nice do not influence the number of legislative acts adopted, more acts were passed after the implementation of the Single European Act and the Maastricht Treaty. The ‘anticipation’ variables are all positive and statistically significant. This means that the number of acts adopted rises in the months preceding enlargement rounds. In model 2 we add those variables that account for the increase in group size. Due to collinearity, EU12 and EU25 are dropped from the analysis. In order to keep these variables in the model we remove the variables accounting for the Delors Presidency, the Amsterdam Treaty, and the Nice Treaty in model 3. All of these were statistically insignificant in model 1. The variables accounting for the increase in group size are interpreted as follows. The baseline of comparison is the EU9. The accession of Greece (= ‘EU10’) therefore has no influence on the number of acts adopted per month. In the case of the EU12 and the EU15 we find negative effects that, however, are only weakly statistically significant. Only if we accept a ten per cent significance level we find a reduction of legislation in the EU12 of about -42.9 per cent and in the EU15 of about -43.1 per cent as compared to the EU9. In the EU25 statistically significantly lower numbers of acts were adopted than in the EU9 (-67.5%). Tests for equality of the different EU coefficients do not, however, reject equality between the EU12, EU15, and the EU25 impacts. Thus, whilst more acts were adopted in the EU9 and the EU10, group size changes do not make a difference beyond the EU12.

Table 3 - Effects of Group Size and Heterogeneity on EU Legislative Output

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Acts submitted by the Commission <sup>1</sup>	0.0048*** (0.0016)	0.0048*** (0.0016)	0.0047*** (0.0015)	0.0047*** (0.0015)	0.0047*** (0.0015)
EU10		-0.1495 (0.2837)	-0.2968 (0.3036)	0.1276 (0.2101)	
EU12 <sup>2</sup>			-0.5608* (0.3306)	-0.7203** (0.3213)	
EU15		0.5561 (0.3823)	-0.5641* (0.3299)	0.5588 (0.3820)	
EU25 <sup>3</sup>			-1.1229** (0.5046)		
Heterogeneity				0.0000 (0.0000)	
Delors Presidency	0.1082 (0.2058)	0.1052 (0.2055)			
SEA in force	0.6589** (0.2701)	0.6619** (0.2705)	0.5612** (0.2190)	0.5612** (0.2190)	0.5612** (0.2190)
TEU in force	0.7355** (0.3134)	0.7335** (0.3134)	0.4671** (0.1933)	0.4671** (0.1933)	0.4671** (0.1933)
Amsterdam Treaty in force	0.3884 (0.4018)	0.3828 (0.4014)			
Nice Treaty in force	0.5072 (0.4130)	0.5017 (0.4125)			
Anticipation of 1981 enlargement	1.7420*** (0.1860)	1.7352*** (0.1858)	1.7300*** (0.1859)	1.7300*** (0.1859)	1.7300*** (0.1859)
Anticipation of 1986 enlargement	0.9147*** (0.1870)	0.9121*** (0.1873)	0.9561*** (0.1568)	0.9561*** (0.1568)	0.9561*** (0.1568)
Anticipation of 1995 enlargement	0.6620*** (0.1938)	0.6572*** (0.1946)	0.6501*** (0.1940)	0.6501*** (0.1940)	0.6501*** (0.1940)
Anticipation of 2004 enlargement	1.4963*** (0.1964)	1.1244*** (0.3304)	1.1270*** (0.3304)	1.1270*** (0.3304)	1.1270*** (0.3304)
Anticipation of 2007 enlargement	0.8956*** (0.1267)	0.8943*** (0.1267)	0.8928*** (0.1265)	0.8928*** (0.1265)	0.8928*** (0.1265)
Number of Members					-0.0559 (0.0382)
_cons	2.1566*** (0.2263)	2.3026*** (0.1867)	2.4500*** (0.2163)	2.5151*** (0.1804)	2.5479*** (0.5596)
Inalpha _cons	-1.2528*** (0.1072)	-1.2603*** (0.1073)	-1.2578*** (0.1069)	-1.2578*** (0.1069)	-1.2578*** (0.1069)
N	360	360	360	360	360
AIC	3067.941	3067.6732	3064.2631	3064.2631	3064.2631
BIC	3215.6130	3219.2313	3208.0489	3208.0489	3208.0489

Note: Robust Standard errors in parentheses. \* = p < 0.1; \*\* = p < 0.05; \*\*\* p < 0.01. All models include yearly dummy variables and lagged dependent variables (lag 12 and lag 6), accounting for time trends.

1: Acts submitted by the Commission is lagged by four months in all models.

2: Due to collinearity EU12 is dropped in model 2.

3: Due to collinearity EU25 is dropped in models 2, 4 and 5.

In model 4 we account for heterogeneity as measured by standard deviations of GDP per capita. The coefficient of this variable is insignificant but this might be due to multicollinearity (the EU25 variable is dropped from the model due to collinearity<sup>8</sup> and we observe high variance inflation factors<sup>9</sup>). Since other measures of heterogeneity display similar effects we refrain from substantively interpreting the results of model 4 but rather reinterpret the results of model 3. Figure 2 illustrates that most of the largest changes in heterogeneity occur together with group-size changes (and, in fact, the ‘heterogeneity’ variable and the ‘members’ variable correlate at a level of .93). It can therefore be argued that the ‘EU’ variables in model 3 not only capture the group size effect, but also the historical changes in heterogeneity. As such, group size and heterogeneity effects are therefore only found for the early enlargement rounds. The last two enlargement rounds do not seem to matter substantively. While this might not be so surprising in terms of the Northern enlargement – it is rather surprising regarding Eastern enlargement. The results are finally supported by model 5 in which group-size and heterogeneity changes are captured by the ‘members’ variable. The variable is insignificant indicating that over the whole time period no group-size and heterogeneity effects can be observed.

While we do not find evidence for group size and heterogeneity effects after the EU has reached 12 members, the anticipation variables point towards short run effects of enlargement. Figure 4 graphs the number of legislative acts adopted in the months prior to and following Eastern Enlargement in May 2004 minus the pre enlargement 3 year

---

<sup>8</sup> Including the heterogeneity variable in logarithmic form does, unfortunately, not solve the problem.

<sup>9</sup> The heterogeneity variable has a variance inflation factor above 10. Additionally, by including the heterogeneity variable the variance inflation factors for the EU15 and the EU25 variables increase by a multiple, with the VIF close to 10 for the EU15 and above 10 for the EU25.

averages for the specific months. We see that the output is well above the average in the months preceding the accession of new member states and lies below the pre enlargement averages after enlargement. Thus while the accession of new member states does not seem to lead to long run quantitative consequences we detect short run effects. In our view, the decline of legislative output directly following the accession of new member states can be explained by anticipatory behavior of old member states rather than by gridlock dynamics. Note, that the occurrence of anticipatory behavior points towards possible qualitative effects of enlargement. If old member states decide issues before the arrival of new member states they might want to avoid qualitative changes of policy – given that there is not much evidence for quantitative effects of enlargement. This again clearly underlines that qualitative effects deserve attention by future research.

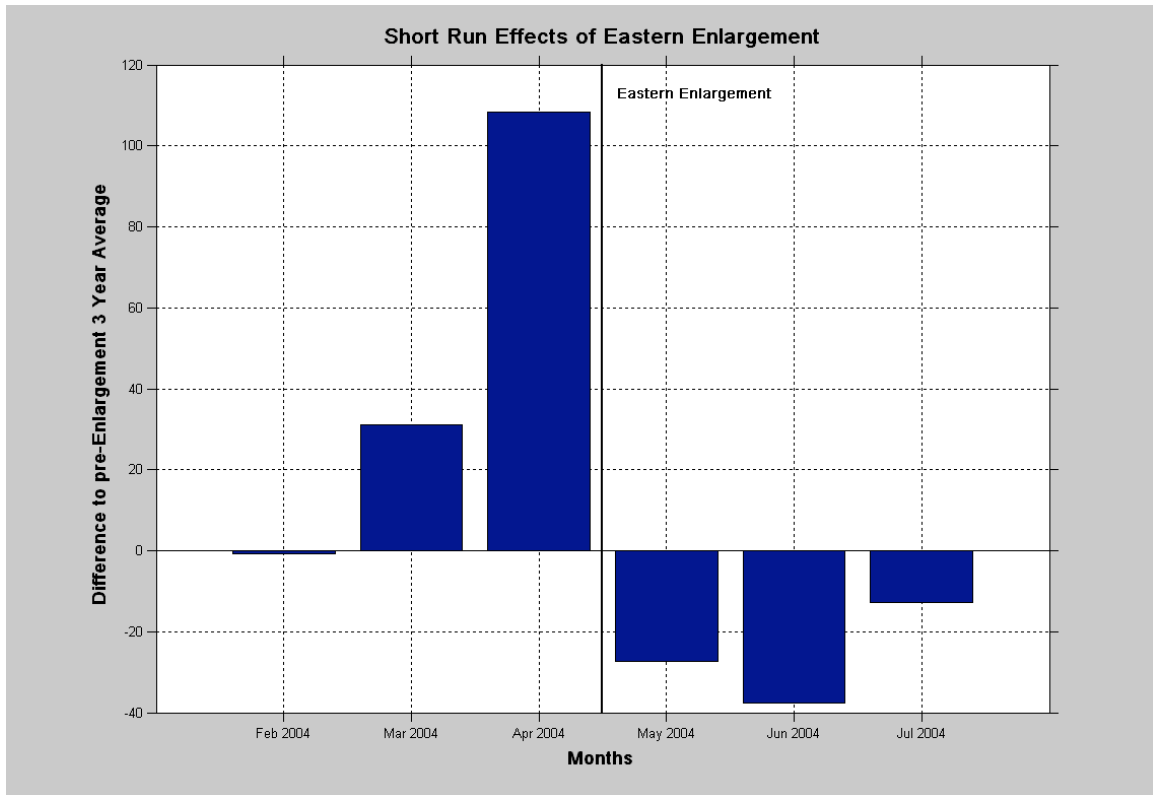


Figure 4: Short run enlargement effects

## *Discussion*

How do these empirical findings fit to our theoretical predictions derived above? When interpreting the ‘EU’ variables in model 3 as capturing both the historical changes in group size as well as in heterogeneity we need to compare the results of model 3 with the last column of table 1. The empirical analysis indicates no effect for the Greek accession and this is perfectly in line with our theoretical expectation (the adoption rate was expected to decrease by only .3 percentage points). According to the simulations the number of adopted acts should decrease by 7.8% after the Spanish and Portuguese accession. Although we do not find support for a change in the number of acts adopted when comparing the EU12 to the EU10, a significant negative effect is found when comparing the EU12 to the EU9, indicating that the combined impact of Southern Enlargement in 1986 and Greek Enlargement in 1981 have decreased the number of acts adopted. In the case of Northern Enlargement theory predicts that group size and heterogeneity effects cancel each other out. Indeed, we find no statistically significant difference between the EU12 and the EU15. More surprisingly, however, we do not find evidence for negative effects for the change from 15 to 25 member states. Theory had predicted a reduction of 4.8 per cent.

The empirical relationships between group-size, preference heterogeneity and policy stability are more complicated to disentangle than suggested by a simple veto player setup. In our analysis we do not find strong evidence for increasing gridlock dynamics due to enlargement. Not even Eastern enlargement with its clear increase in size and heterogeneity has significantly shocked the EU. This, of course, comes as good news for the EU. Our analysis suggests continuity in quantitative terms.

Two sets of explanations for our findings are conceivable. First, in our setup we have neglected the role of the European Commission. This institution has enormous agenda-setting powers and in anticipation of member state preferences it can adjust its policy proposals to new coalitions. To take up an image introduced by Downs et al. (1996), it is thus possible that the orchestra after an enlargement plays different tunes than before. If the policies proposed by the Commission increasingly approach the status quo this would still be in line with veto player theory. However, since we have only analyzed quantitative output this qualitative dimension evades us. Future research could, for instance, consider differentiating between ordinary and landmark legislation (cf. Mayhew 1991).

A second explanation for our findings could be different group dynamics alleviating the potentially negative effects of a change in group size. In sociological approaches increasing group sizes can lead to changes in decision-making structures and procedures. For instance, an increase of group size could lead to processes of oligarchization, formalization or adaptation. According to an oligarchization scenario just a few actors dominate in larger groups. Therefore the actual number of group members is less important than the informal power structures. In contrast, formalization expects that a growth in group size leads to a rationalization of decision-making processes. Finally, adaptation would expect new member states to closely adjust to the behavior of old member states. This would explain that we do not observe more conflicts between old and new member states despite increasing heterogeneity in terms of structural variables. So far, we cannot tell whether these theories actually apply to the case of EU

enlargement. However, they urge us to look more carefully into the mechanisms of post enlargement governance.

## **Conclusion**

The findings presented in this article are a first step to assess the effects of an increase in the number of member states on EU legislative output. We start off by reviewing veto player theory and run computer simulations in order to make predictions for the case of the EU. Our simulations illustrate that the number of members in combination with increasing heterogeneity should impact on policy-making. When turning to the empirical tests the results, as a matter of fact, are less tidy. In contrast to many expectations raised in academic and non-academic literature our analysis does not reveal a systematic relationship between group size, heterogeneity and policy stability in the EU. This result comes as good news for the EU – not even Eastern enlargement has lead to persisting gridlocks. Not all of the theoretical predictions made by veto player theory are however corroborated by our data. The dynamics of policy-making thus seem more complex than suggested by this theory. But, of course, our analysis only investigates quantitative effects and neglects possible qualitative consequences of enlargement. Future research should thus take qualitative effects into account. Finally, the processes of post enlargement governance also merit increased attention by future research.



## References

- Albert, Max (2003) 'The Voting Power Approach', *European Union Politics* 4(3): 351-366.
- Alesina, Alberto and Spolaore, Enrico (2003) *The Size of Nations*. Cambridge: MIT Press.
- Baldwin, Richard E., Berglöf, Erik, Giavazzi, Francesco and Widgrén, Mika (2000) 'EU Reforms for Tomorrow's Europe', CEPR Discussion Paper No. 2623, November 2000, London.
- Baldwin, Richard, Francois, Joseph and Portes, Richard (1997) 'The Costs and Benefits of Eastern Enlargement: The Impact on the EU and Central Europe', *Economic Policy* 12(24): 125-76.
- Baldwin, R. and Widgrén, M. (2003) 'A study of the Constitutional Treaty's Voting Reform Paradox', CEPS Policy Brief No. 44, November 2003, Brussels.
- Baldwin, R. and Widgrén, M. (2004) 'Council voting in the Constitutional Treaty: Devil in the details', CEPS Policy Brief No. 53, July 2004, Brussels.
- Baldwin, R. and Widgrén, M. (2005) 'The impact of Turkey's membership on EU voting', CEPS Policy Brief No. 62, February 2005, Brussels.
- Bauer, Thomas K. and Zimmermann, Klaus F. (1999) 'Assessment of Possible Migration Pressure and its Labour Market Impact Following EU Enlargement to Central and Eastern Europe', IZA Research Report No. 3, July 1999, Bonn.
- Bilbao, J.M., Fernández, J.R., Jiménez, N., López, J.J. (2002) 'Voting power in the European Union enlargement', *European Journal of Operational Research* 143: 181-196.
- Crombez, Christopher (1996) 'Legislative Procedures in the European Community', *British Journal of Political Science* 26: 199-228.
- Dahl, Robert A. (1999) 'Can international organizations be democratic? A skeptic's view?', in Shapiro, Ian and Hacker-Cordón, Casiano (eds.) *Democracy's Edges*, pp. 19-36. Cambridge: Cambridge University Press.
- Dobbins, M., Drüner, D. and Schneider, G. (2004) 'Kopenhagener Konsequenzen: Gesetzgebung in der EU vor und nach der Erweiterung', *Zeitschrift für Parlamentsfragen* 35(1): 51-67.
- Downs, George W., Roche, David M. and Barsoom, Peter N. (1996) 'Is the good news about compliance good news about cooperation?', *International Organization* 50(3): 379-406.

Drazen, Alan (2002) *Political Economy in Macroeconomics*, Princeton: Princeton University Press.

Felsenthal, Dan S., Leech, Dennis, List, Christian, Machover, Moshé (2003) 'In Defence of Voting Power Analysis Responses to Albert', *European Union Politics* 4(4): 473-497.

Felsenthal, Dan S. and Machover, Moshé (2004) 'A priori voting power: what is it all about?', *Political Studies Review* 2:1-23.

Garrett, Geoffrey and Tsebelis, George (1999) 'Why resist the temptation to apply power indices to the European Union?', *Journal of Theoretical Politics* 11(3): 291-308.

Garrett, Geoffrey and Tsebelis, George (2001) 'Even More Reasons to Resist the Temptations of Power Indices in the EU', *Journal of Theoretical Politics* 13: 99-105.

Hertz, Robin and Leuffen, Dirk (2007) 'Anticipation in Legislative Politics: The Case of EU Enlargement', Zurich: CIS Working Paper 32.

Hörl, Björn, Warntjen, Andreas, and Wonka, Arndt (2005) 'Built on Quicksand? A Decade of Procedural Spatial Models on EU Legislative Decision-Making', *Journal of European Public Policy* 12(3): 592-606.

Johnston, R.J. (1995) 'The Conflict over Qualified Majority Voting in the European Union Council of Ministers: An Analysis of the UK Negotiating Stance Using Power Indices', *British Journal of Political Science* 25(2): 245-254.

Kandogan, Yener (2000) 'Political Economy of Eastern Enlargement of the European Union: Budgetary Costs and Reforms in Voting Rules', *European Journal of Political Economy* 16(4): 685-705.

Kerremans, Bart (1998) 'The Political and Institutional Consequences of Widening: Capacity and Control in an Enlarged Council', in Pierre-Henri Laurent and Marc Maresceau (eds) *The State of the European Union Deepening and Widening* Vol. 4, pp. 87-109. London: Lynne Rienner Publishers.

King, Gary (1988) 'Statistical Models for Political Science Event Counts: Bias in Conventional Procedures and Evidence for the Exponential Poisson Regression Model', *American Journal of Political Science* 32: 838-863.

King, Gary (1998) *Unifying Political Methodology. The Likelihood Theory of Statistical Inference*. Ann Arbor: Michigan University Press.

König, Thomas and Thomas Bräuninger (2000) 'Governing the Enlarged European Union: Accession Scenarios and Institutional Reform', *Central European Political Science Review* 1(1): 42-62.

König, Thomas und Bräuninger, Thomas (2004) 'Accession and Reform of the European Union. A Game-Theoretical Analysis of Eastern Enlargement and the Constitutional Reform', *European Union Politics* 5(4): 419-439.

König, Thomas, Luetgert, Brooke and Dannwolf, Tanja (2006) 'Quantifying European Legislative Research. Using CELEX and PreLex in EU Legislative Studies', *European Union Politics* 7(4): 553-574.

Lane, Jan-Erik and Berg, Sven (1999) 'Relevance of Voting Power', *Journal of Theoretical Politics* 11(3): 309-320.

Leuffen (2006) 'Die Folgen der Osterweiterung für das Regieren in der EU: rationales Handeln in angemessenen Bahnen?', paper presented at the workshop Die Konsequenzen der Osterweiterung für die Europaforschung of the Wissenschaftszentrum Berlin, 31 March – 1 April 2006, Berlin.

Long, Scott (1997) *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks: Sage.

Long, Scott and Freeze, Jeremy (2006) *Regression Models for Categorical Dependent Variables using Stata*. College Station, Texas: STATA-Press.

Mayhew, David (1991) *Divided We Govern. Party Control, Lawmaking, and Investigations 1946-1990*. New Haven and London: Yale University Press.

Michels, R. (1962) *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. New York: Free Press.

Olson, Mancur (1965) *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge: Harvard University Press.

Pajala, Antti and Widgrén, Mika (2004) 'A priori versus empirical voting power in the EU Council of Ministers', *European Union Politics* 5(1): 73-97.

Romer, Thomas and Rosenthal, Howard (1978) 'Political Resource Allocation, Controlled Agendas and the Status Quo', *Public Choice* 33: 27-44.

Simmel, Georg (1992) *Soziologie. Untersuchungen über die Formen der Vergesellschaftung*. Frankfurt a.M.: Suhrkamp.

Steunenberg, Bernard (2002) 'The effects of enlargement on EU decision-making' in Steunenberg, Bernard (eds) *Widening the European Union: The Politics of institutional change and reform*, pp. 97-118. London: Routledge.

Steunenberg, Bernard, Schmidtchen, Dieter and Koboldt, Christian (1999) 'Strategic Power in the European Union', *Journal of Theoretical Politics* 11(3): 339-366.

Tsebelis, George (2002) *Veto Players How Political Institutions Work*. Princeton NJ: Princeton University Press.

Tsebelis, G. and Yataganas, X. (2002) 'Veto Players and Decision-making in the EU After Nice: Policy Stability and Bureaucratic / Judicial Discretion', *Journal of Common Market Studies* 40(2): 283-307.

Weber, M. (1921) *Wirtschaft und Gesellschaft: Grundriß der verstehenden Soziologie*. Tübingen: J.C.B. Mohr.

Zielonka, J. (2006) *Europe as Empire. The Nature of the Enlarged European Union*. Oxford: Oxford University Press.

Zimmer, Christina, Schneider, Gerald and Dobbins, Michael (2005) 'The Contested Council: Conflict Dimensions of an Intergovernmental EU Institution', *Political Studies* 53: 403-422.